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"Mr. Jones calling," intoned the operator. "Will you accept the charges?"

There was utter stillness, then a gasp and a wail, "But Daddy, I can't pay for this. You *know* I only get 15 cents a week!"

No one was going to wangle her precious allowance.

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"Do you watch out for houses where the occupants are on vacations?" asked a male voice.

"Sure," said the police sergeant. "How long will you be gone?"

"I don't know," replied the voice. "I'm going to Korea."

The sergeant dutifully listed the man heading for Korea under vacationers.

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Some thief, the businessman complained angrily to the desk sergeant, had stolen a radio and other articles from his parked automobile. The police promised to investigate.

Shortly afterward, the complainant, red-faced, returned the automobile to its parking place to apologize profusely to another wrathful owner for having mistakenly driven the wrong automobile away.

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"Finally, after thinking for a day or two that I had 'bells in my head,' I called the telephone company," she said. "The company assigned a man to investigate."

It developed that through induction, the woman was picking up "canned music" played over amplifiers at recreational centers in a nearby Army base.

"I knew it couldn't have been a radio station," she said. "I never heard any commercials."

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

February 10, 1951

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IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH
WASHINGTON EDITOR

Senator McFarland enters FCC investigation of interstate toll rates with letter to commission requesting careful deliberation be given to rate reduction in view of wide disparity between interstate and intrastate toll rates. REA approves largest single loan allocation.

Bell Telephone Talks

SOMETHING new has been added to the FCC inquiry into interstate and foreign long distance telephone service. The new element is Senate Majority Leader McFarland (D., Ariz.), who has suddenly thrown quite a bit of sand in the way of another one of those early and easy back-of-the-scenes rate reduction agreements. Last month, when the FCC issued its "show-cause" order directing the Bell System to show (before Mar. 23) why interim long distance toll rates should not be cut, and to appear at formal hearings on rates on Apr. 16, the betting among Washington observers, who follow that sort of thing closely, was in favor of another "negotiated" reduction.

It may still turn out that way. But Senator McFarland is certainly in a position to make himself heard. Now that he has asked the FCC to stop, look, and listen before plunging ahead with another interstate toll rate cut, it is at least safe to say that the FCC will pay careful attention.

Perhaps it is a little bit *lèse majesté* for this writer to suggest that a dignified, quasi-judicial tribunal, such as the FCC, could ever be deflected even a fraction of a degree from the swift completion of its appointed regulatory rounds by such outside influence as a letter from a congressman. But when you are around Washington for a few years, you gradually become cynical enough to think that sometimes these things do help.

Certainly Senator McFarland is in a position to make things pretty hot for the FCC, if they gave his request for careful deliberation of a toll rate cut anything like a brush off. First of all, Senator McFarland is today probably the outstanding critic of the FCC in Congress. For years he has suggested, in various ways, that the FCC is suffering from hardening of the arteries —underproduction, overweight, bottlenecks, and other complications.

He is the author of a bill in the last two Congresses to reorganize the FCC by rewriting the Communications Act. This bill was actually passed by the Senate in the 81st Congress. It has been reported out of Senate committee in the present Congress; and will probably pass that chamber in the near future. For the telephone companies, this reorganization bill is largely procedural and isn't vitally important. But it does go to show that the Arizona senator is not an enthusiastic admirer of the way the FCC does business.

Next, consider the fact that the senator has become majority leader, the administration's spokesman on the floor of the Senate and a powerful influence on what bills shall pass and what shall not. Still further, Senator McFarland is chairman of the subcommittee of the Senate Interstate and Foreign Commerce Committee, which handles FCC regulation. Put all these things together and you can see that Senator McFarland is a name to conjure with around the FCC, bottleneck or no bottleneck.

In his very polite and respectful communication to the FCC, Senator McFarland has happened on a very smart political cause. He has picked up the torch of the state commissions. He has "requested" that the FCC examine the effect of any interstate long distance rate reductions on intrastate rates, before issuing any orders on rate reductions. He has asked the FCC to put into effect, on trial, a proposal of the National Association of Railroad & Utilities Commissioners (NARUC) which would transfer certain intrastate assets of the telephone companies to the interstate rate base. The proposal is designed to relieve some of the disparity between interstate and intrastate rates.

Senator McFarland's letter pointed out that any reduction of Long Lines rates would only increase the necessity for further rate increases in the many states—thereby putting an extra economic burden on the small local telephone user. He further noted that such interstate rate reductions would serve chiefly to benefit the large industrial businesses which make extensive use of the long distance telephone. The Senate leader observed that the NARUC had merely been invited to attend the proceedings in April. In his letter, the Arizona senator urged that the FCC give full consideration to NARUC proposals.

Although Senator McFarland's epistle was directed to the attention of the dean of the FCC, who usually handles telephone matters, Vice Chairman Paul A. Walker, it is a safe bet that the entire membership has long since taken judicial notice of it. As a matter of fact, the commission is composing a very polite answer to the senator which will soon be made public. Independent telephone companies (USITA), as well as the Western Union Telegraph Co., will join the party in April.

All this comes at a time when the FCC can hardly be in a mood to take on more major controversies. It already finds itself conducting a veritable three-ring circus, ranging from plunging horse-race gamblers to plunging necklines on television. It also seems to be on the griddle, in some quarters, over its order favoring Columbia Broadcasting System's version of color television via a rotary wheel or "ferris wheel" drum. War restrictions on manufacturers may bail out the FCC, to some extent, on its color TV difficulties. But there are plenty of things for FCC to do, without taking on any feuds with the Democratic majority leader over how it should conduct a long distance rate inquiry.

Summing up, therefore, the chances look good, at this writing, that the FCC will give both the state commissions and Independent telephone com-

panies an opportunity to be heard. If the arguments are good enough, it might even consider adjustments of its traditional cost concept of a long distance telephone call. It could even be that the calculating machine school of regulation, so firmly entrenched at the FCC, is due for a little nudging.

Record REA Loan Goes to Co-op

The largest single Rural Electrification Administration telephone loan allocation to date has gone to the Garden Valley Telephone Co., Erskine, Minn. The company was established as a mutual in 1906 and in 1948 became a cooperative. It serves 5,645 subscribers over 1,913 miles of line at the present time, and expects to serve 7,244 subscribers over 2,257 miles of line when improvements are completed. The allocation was for $2,065,000.

The company has 19 exchanges of which one is dial. Expansion plans call for the elimination of all manual exchanges plus five new dial exchanges, giving a total of 24 dial exchanges for the entire system. Line improvements contemplated will require the rebuilding of 1,275 miles of existing line, the retiring of 138 miles and the addition of 482 miles of new line. The company serves the northwestern part of the state, which is generally referred to as the Red River Valley. W. E. Day, Bagley, Minn., is the president of the company.

Incidentally, REA telephone loans *actually* approved have been creeping up somewhat, on total number of approved *allocations*. Out of 67 allocations made by REA since the beginning of the telephone program in October, 1949, through Feb. 1, 1951, 13 loan contracts finally have been approved by Administrator Wickard. It is Wickard's signature on these contracts which actually opens the cash window. Only one telephone company receiving an REA loan, however, was known to be operating on the basis of improvements made with REA funds on Feb. 1. Doubtless others will soon follow, as the work financed by these loans "proves in."

Taft-Hartley Changes?

The Senate Sub-committee on Labor-management Relations voted last month, by a vote of 4 to 1, on a report on labor-management relations of the Bell System. This report stems from the sub-committee inquiry into Bell's labor relations last summer. Senator Taft (R., Ohio) dissented, and is preparing a minority report to be added to the 62-page majority document. The other Republican member, Senator Morse (R., Ore.) joined three Democrats.

The gist of the majority report is that the Bell System labor relations are believed to be centrally controlled by the American Telephone & Telegraph Co. people. Therefore, the sub-committee believed that telephone company labor unions should be permitted to bargain on a nation-wide basis. And since this is contrary to the Taft-Hartley Act, as presently written, a change to the Tart-Hartley Act is recommended.

The report states in part: "These facts demonstrate that any description of the local associated companies as autonomous corporations is theoretical and can only be justified in the strictest legal sense, for, as the summary of the evidence that follows will show, these companies function as parts in a closely integrated corporate system completely and directly controlled by the AT&T management."

Senator Taft's minority report is expected to lend support to the Bell System's contention that the system companies are given discretion to deal with labor unions at the local level, and have exercised the same. The majority report is rather inconclusive in its reaction to claims of an independent telephone union group known as the "Independent Alliance." This group suggested that local level bargaining by the Bell telephone companies and union employes should be protected—not destroyed, by resorting to nation-wide bargaining.

As far as congressional action is concerned, it seems unlikely the 82nd Congress will do anything about repealing the Taft-Hartley Act to permit nation-wide telephone bargaining. Even the Senate Labor Committee is hardly likely to do much more than consider the sub-committee's report. The present legislative climate in the House of Representatives is such that all chance of Taft-Hartley repeal or amendment is considered dead or dying. The only possibility for action along this line would be an agreement to take up a series of amendments favored by Senator Taft himself to strengthen and clarify the present labor law. Since this course has always been unpalatable to the labor union leaders, this writer does not expect any law on the subject from Congress at the present session.

The President's Tax Message

Although the President told Congress last week, in no uncertain terms, that we need higher taxes, he left it pretty much up to Congress to decide the exact "ways and means" by which such taxes are to be raised. Over half of the President's message to Congress on Feb. 2 dealt with the need for pay-as-you-go financing of government expenditures to avoid inflation.

Inasmuch as it was generally agreed that we need higher taxes, that portion of the President's message created little reaction one way or the other. But when he got around to talking about specific levies, the President was not very specific. He thinks Congress ought to boost taxes about $10 billion—$4 billion in new taxes would come by increases in personal income taxes; $3 billion by increases in corporation taxes; $3 billion by new or additional excises. He also wants to close various "loopholes."

But the President did not spell out what selective excise taxes he had in mind. It might be of some small comfort to the telephone industry to read the inference contained in the following passage: "I recommend . . . increases in selective excise taxes to yield three billion dollars. Under present circumstances, these increases should be concentrated upon less essential consumer goods, and upon goods which use materials that will be in short supply."

Since the telephone business could hardly be classified as "less essential consumer goods," we would thus seem to have some assurance that the President does not intend to *increase* the present high excise taxes on monthly telephone bills or long distance calls.

On the subject of loopholes, the President was likewise very general.

(Please turn to page 42)

REA ALLOCATES $309,000 TO WASHINGTON COMPANY

The Rural Electrification Administration approved one telephone allocation of $309,000 during the week of Jan. 22 to 26.

On Jan. 24th, the Orchards (Wash.) Telephone Co. received an allocation of $309,000, to finance the expansion and improvement of telephone service in the southwestern part of Clark County.

The company now provides magneto service from 42 miles of line serving 452 rural subscribers. The loan funds will be used to rehabilitate the existing line, construct 57 miles of new line, serve 656 additional subscribers, and convert the system to dial service.

When rehabilitation and new construction are completed the system will consist of 99 miles of line, serving a total of 1,108 rural subscribers.

This is the first REA telephone loan allocation approved in the State of Washington.

NEW TECHNIQUES, EQUIPMENT

By RAY BLAIN
Member
USITA Plant Committee

[This is an address which Mr. Blain presented before the Plant Conference at the annual 1950 convention of the United States Independent Telephone Association. His comments concerning various items of equipment do not necessarily represent the views of this publication.]

PART I

THE Independent telephone industry has never been accused of obstructing progress. Many important communication features, now in general use, had their inception in the Independent field. Our industry, throughout its history, has never been the least hesitant in the adoption of any new product, or method—at least on a trial basis—when there was evidence that it might contribute to service-improvement or result in savings in time or money. There may be some cases where change is not always progress, but, without change, certainly progress will never be made in any industry.

The new devices and methods outlined in this paper have all been "on-the-job-tested" and there is every indication that they will prove adequate for general use. . . .

Cable Splicing Machine

The Channell cable splicing machine consists of a mechanism which is used for twisting the copper conductors and sliding an insulating cotton sleeve over the splice. The cotton sleeves are slipped on the wires which are then placed in the machine which pulls off the paper insulation in one movement. The operation of a lever handle on the right-hand side of the machine then cuts off the excess wire, twists the conductors together, bends over the splices, and throws the pair out of the machine to the rear.

This machine may be used to advantage on aerial, block, house and underground cables. It may also be used to complete straight splices, bridge splices, butt splices and quadded cable splices. Normally, it will not prove advantageous or economical to use the machine to splice cables smaller than 200 pairs. On larger cables, however, it proves considerably more economical than hand splicing.

The machine is approximately 12 ins. x 4 ins. x 21 ins., and weighs about 16 pounds.

A total of 191 splices in 455-pair, 19-gauge cable were made with this machine by a certain telephone company on a field trial. Nineteen apprentice splicers were used on this test. However, only one of this number had had more than three months' experience. The man-hours for the 191 splices totaled 5,759½, or an average time per splice of 30¼ man-hours. Time included opening up, boiling, splicing, wiping, bonding, moving and premium time. The average time required to splice a 909-pair, 22-gauge cable is 11

RAY BLAIN

hours and 20 minutes, or 22½ man-hours.

Concrete Cutter

When underground telephone conduit must be installed or repaired, under pavement, labor costs frequently may prove excessive. Proper use of this new concrete cutter will materially reduce labor costs on all construction jobs where pavement removal is involved.

Operating in principle like a powerful rip saw, this concrete cutter produces a fast, smooth-surfaced cut with ease. With its double-bonded diamond cutting blade, it will open up existing concrete pavement quickly and efficiently. It scores or cuts surfaces, completely eliminating the cracked, spalled, or broken edges experienced in ordinary pavement breaking methods. This machine permits continuous or intermittent cuts on straight or curved lines at any desired controllable depth. When a cut-out area is broken out and new concrete replaced in the section, a smooth straight-edge, wall-to-wall contact is obtained in the pavement surface to the depth of cut. This assures neat, tight-butted joints which preclude water and frost from entering the joints, and safeguard the concrete from buckling and heaving. This cutter may be operated by one man and used on concrete, blacktop, granite, marble, terrazzo and tile. It is powered by a 13-horsepower, two-cylinder, four-cycle gasoline engine.

Trouble Lights

The average trouble light is too bright, large and bulky for telephone use. This lamp was designed to overcome all of these defects in that it is light in weight and small in size. It provides just the proper amount of light without glare. It weighs less and takes up less room in the tool kit than the average flashlight. The base light is mounted in a neoprene handle and equipped with a well insulated cord. The small fibre reflector is easily removable if a directed light beam is not required.

Cable Stripper

Many a cable has been seriously damaged by the improper or careless use of a chipping knife in removing the sheath in preparation for splicing. This cable stripper will remove the sheath quickly and cannot cut the conductors. Once properly set, the blade cannot cut into the cable deep enough to damage insulation. The sheath cuts are always even and smooth.

To use, the circular cut should be made first. Next, turn the handle parallel with the cable and strip. On all soft-sheathed cables, after making the circumferential cut, leave the blade in the sheath while turning the handle to make the longitudinal cut. On heavy lead-sheathed cable the blade should be removed before turning the handle. This stripper works equally well on plastic, rubber, lead, fabric and paper-

covered cables. Various types of these strippers are available for use on cables up to three inches, outside diameter.

Masonry Drill

Drilling of concrete or masonry has always been a difficult and expensive operation in the telephone industry. This new drill represents the most revolutionary development in masonry drilling tools in the past 20 years. Its design embodies multiple cutting inserts of special carbide of near-diamond hardness which actually pulverize the material as it drills. A worm and draft principle forces air up the worm, caused by the rotary action of the drill, carrying the pulverized material which is lifted out of the hole, leaving it clean at all times. This drill is held in true line by the worm head, cutting cleanly and directly through the aggregate, and maintains a perfect hole with a tolerance within one-thirty-second of an inch of the drill diameter. The shanks and bodies of these drills are made of special alloyed steel, centerless ground, to assure true alignment which, in turn, assures longer life.

The drills are designed for use in all types of rotary electric chuck drills from one-fourth of an inch up to one inch in chuck sizes, drill presses, rotary air drills and rotary electric impact tools. Drills are available from eleven-thirty-seconds of an inch to four and one-fourth inches, with all fractional sizes included and provide shank lengths of 12 ins., 18 ins., 24 ins. and 36 ins. for all core drills.

This tool is designed to drill quietly, quickly and cleanly, all hard aggregate, masonry materials and ceramics. It cuts equally well through the hard aggregate materials even though there are varying hardnesses, such as are found in the following materials: Concrete with blue stone aggregate; concrete with river bottom stone aggregate; marble terrazzo, granite, tile, glazed brick, porcelain, vitrified and plain red brick, glass, etc.

Hand Torch

The proper maintenance of torches, when required for soldering out on the line, frequently proves a difficult and expensive undertaking. This new portable hand torch which lights instantly with a match, burns with a clean, blue, hot flame and does away with all pouring, pumping and priming, is now available for general use. Fuel for this torch is supplied in a disposable can, about the size of an ordinary beer can, which is sealed and locked in place and forms a part of the torch. When empty, the container is removed and thrown away, and a new full can of fuel attached.

The fuel is a compound of petroleum hydrocarbons which is self-pressuring and self-vaporizing. It is non-toxic, non-poisonous, and a low pressure fuel. When the valve is opened, the burning tip can be lighted with a match as easily as lighting a gas stove. Within 30 to 60 seconds, the flame reaches its maximum heat of more than 2,200 degrees. It provides constant heat—8,500 BTU from a single container. Under ordinary use, one container will last five hours with a moderate flame.

Two different burners are furnished with the torch, one of which is ideal for flame soldering. It throws a long, pin-pointed flame, concentrating heat in a small area. The larger burner has a long, broad flame, which is especially adapted for sweating lugs on heavy wire, heating metal for bending and other similar jobs which require a large flame.

Cable Testing Air Compressor

Flash testing of cable splices has proved highly desirable and economical in the prevention of trouble and service interruptions. Unfortunately, in the smaller exchanges, nitrogen gas is not in every case conveniently available for this purpose. To overcome this difficulty a small power driven compressor that delivers oil-free dry air has been made available. This compressor may be powered either by an electric motor or a small portable gasoline engine. Moisture is extracted from the air by forcing it through a container filled with desiccant. The desiccant normally is blue in color, which changes to red when moisture-laden. The color of the desiccant should be carefully observed during periods of introducing air into a cable. When the color changes to red and is within one-half inch of the top of the container, the air should be switched through a spare jar available for this purpose. The moisture-laden desiccant may be reactivated by heating for reuse.

Cable Grips

The telephone industry has made extensive use of the cable grip since its invention nearly 50 years ago. Frequent criticism has been made of the old style grips, but, like Mark Twain's weather, no one did anything about it until recently when some really worth while improvements have been made. The swivel eye grip is one of these improvements. This new swivel eye, which will operate at better than 1,000 pounds tension, has been designed for compact strength; and the eye of the forged steel body will take the usual swing links or sister hooks and will also fit the shackles used by some construction foremen. The wires of the grip are dead-ended in a swagged-on steel slug which rotates in the body of the swivel. This grip also utilizes the varied-mesh principle which distributes the strain over a greater length of cable, thus transferring much of the load through the sheath to the conductors. This has the effect of a core hitch, but does not waste cable.

A new slack-pulling grip has also been developed to overcome the effect of the eccentric load placed on the cable when double eye and single eye offset eye type grips are used. This eccentric pull and the linkage required with the use of this type grip often caused great damage to cable being removed from underground conduit. The new type slack grip also makes use of the endless weave and varied-mesh principle of construction. Because of the swagged-lug design, a triple weave is used which gives greater coverage, causes less marking on the sheath, and reduces considerably the possibility of damage to the cable. The breaking point of the aluminum ring, the weakest point of this grip, is approximately 10,000 pounds. This loading is considered higher than usually encountered in actual practice and ample for all normal conditions.

Gasoline Hammer Drill

The gasoline hammer drill has been extensively and successfully used in the telephone industry for a long period of years. Numerous recent improvements, however, make the use of this tool even more desirable on a large variety of construction jobs. The drill has been reduced in weight considerably. One model has been reduced in weight from 110 to 72 pounds with the result of greater ease in handling. The exhaust from the cylinder is utilized to clean cuttings from the drill hole by means of the exhaust blower when drilling rock.

This hammer drill may also be used to advantage for concrete breaking, frost breaking, asphalt cutting, backfill tamping, and pole hole digging in hardpan or rock. In addition, it may be used in driving long ground rods.

Portable Fluorescent Emergency Light

An emergency fluorescent light recently developed may be advantageous for use in the communications field. Equipped with two internal 45-volt "B" batteries, it will provide approximately 45 hours of intermittent use. Or, the light may be powered with two exterior, standard, double-duty 45-volt "B" batteries that will provide approximately 350 hours of intermittent service. The light will also operate on either 50/60-cycle 110-volt ac or dc power.

This complete light is 11 ins. x 8¼ ins. x 4½ ins. and weighs nine pounds.

Bottled Gas Fire Pot

When bottled gas is used to heat wiping metal with this special furnace, the difficulty of cable splicing is reduced considerably. Bottled gas is easily available everywhere and provides low-cost operation. This furnace has a non-blowout flame, with heat control up to 2,350 degrees. The instant lighting, self-mixing burner requires no pumping, priming or preheating. Optional blast-flame or multi-spread flame type burners may be provided.

Bottled gas fuel maintains a clean orifice, eliminates maintenance problems and insures continuous operation. By the use of a new high heat, low-pressure burner and a pressure regulator on the bottled gas type fire pot, it is possible to melt a 30-pound pot of wiping metal in six minutes. This operation would require 15 minutes or longer with many of the old-style fire pots.

Two-Man Construction Trucks

These trucks are usually mounted on a one-ton chassis and are highly mechanized so that a team of two men can operate the unit with perfect safety. By proper utilization of this vehicle, small line construction jobs can be handled with ease and efficiency. The truck features four-wheel drive. Equipped with large balloon type, off-the-road tires it can get to almost any location in any type of terrain. Unlike the conventional construction truck, this unit has all of its work operations in the front rather than in the rear. This feature assures the operator positive control and perfect visibility at all times.

A light T-type derrick is mounted on the front bumper. The height of this derrick is controlled by a winch line which pulls over the cab and comes from a small winch located in the body of the truck. Another winch located ahead of the radiator is used to lift poles or other required load. Poles up to 30 ft. in length may be set safely with this device.

The pole hole digger, which makes use of a gear box and auger, is suspended from the front derrick. This digger is powered from the truck motor through a power take-off also located on the front bumper. When a hole is dug, the digger may be placed on the ground as the pole, set before the truck, is moved.

Power take-up reels may be placed on both ends of the front winch. Here again the driver has a good view of the work operation, which is an added safety factor.

Another labor-saving device is a 110-volt generator, which is powered from the truck motor. This generator permits the use of electrically operated hand tools such as drills, saws, etc. Flood-lighting for night work or troubles will be powered from this generator.

Strandlinks and Strandvises

The customary practice of splicing strand is to use four three-bolt clamps and a steel Johnnie Ball. This type of splice actually comprises 33 pieces of hardware, including the nuts and bolts. Added to the cost of this material, an average of two man-hours will be required to complete a splice. This difficult job can now be completed in a few minutes by the use of a Strandlink. To make this splice, simply slip the ends of the strand into the sleeve type Strandlink where it is gripped by hundreds of strong teeth. This method makes a smooth, neat splice that does not interfere in any way with the use of cable spinning machines. Deadends are made in a similar manner, using the Strandvise which has grips at one end and a bail loop at the other. A long bail is used to fit over strain insulators and a short bail for standard eye-bolts.

The action of the strand-gripping jaws is simple and positive. When static, messenger and down-guy steel strand installations are made, there is always a certain amount of tension. This tension draws the gripping jaws into the tapered nose of the Strandlink and Strandvise and produces a pressure type connection with a high pressure per square inch. This results in a sealed area where the jaws grip the steel strand. The four-degree taper employed in this design is a "sticking" taper. Hammer-blow force in the direction opposite to applied tension would be required to unseat the jaws if substantial tension has been applied at original installation.

In the installation of down-guys, the Strandvise lends itself to prefabrication at the rear of the line construction truck in a manner similar to present practices except that you don't need a vise. Neither are you required to wrestle with the steel strand as you try to bend it 180 degrees and attempt to install the clamp. When a strain insulator is used, the bail is formed and flattened to a universal radius. This bail is suited to the use of the 502, 504 or 506 insulators.

In the installation of a down-guy, a Strandvise should first be attached to each end of the strain insulator. The anchor is in the ground and the eye bolt in a place at the top of the pole. One end of a predetermined length of strand is inserted in the Strandvise located on the upper end of the strain insulator. The guy is now taken to the top of the pole and attached to the eye-bolt by the use of a bail and another Strandvise. Next, select another length of strand and attach it to the lower end of the strain insulator. This strand must be of sufficient length to reach the anchor eye. A Strandvise is used to attach the guy to the anchor eye and it is pulled hand-tight. Tension is applied by the use of a come-along and a hoist in the usual manner. If, at a later date, the guy slacks off and requires tightening, you can apply more tension and feed the slack strand through the deadend at the anchor eye. With the use of these fixtures, a down-guy may be installed in a matter of minutes.

All Strandvises are equipped with release slots. Once tension has been applied, it must be released before removing a Strandvise. Simply use the come-along and hoist in the same manner as feeding slack strand through the Strandvise. This action will ease the tension at the anchor eye Strandvise and it may then be released by the use of a small screwdriver.

This device is admittedly new and has not been installed as yet in large numbers in the field. However, it has been thoroughly laboratory-tested and meets the most exacting requirements. There is every indication that its future use will revolutionize our guying methods in the telephone industry.

Nylon Switchboard Cords

Field and service tests over a three and one-half year period indicate that the service life of nylon switchboard cords is considerably greater than that of the conventional cotton-insulated variety. On one abrasion test, after 900,000 operations, the cotton cords indicated wear on the outer cover at double sections in several spots. At 1,600,000 operations, the cotton cords were worn through to conductors at single sections and were removed from test. At 1,630,000 operations, the outer cover at double sections on the nylon cords was worn through. At 2,000,000 operations, the nylon cords were worn through to tinsel at end section and the test concluded. The practical life of these nylon covered cords may be considered to be approximately 1,500,000 operations on the abrasion testing machine. This undoubtedly would represent many years of normal service on an average busy switchboard.

One of the most difficult tasks in the design of this cord was finding a thermoplastic compound which would be best suited for the work intended. The compound finally selected will remain stable within wide temperature limits; it will not become soft at 140 degrees F., nor will it become brittle at –40 degrees F. The thickness of this in-

sulation on the tinsel conductor is approximately .015" and it is spark-gap tested to remove any defects in the extrusion.

The outer braid covering utilizes a special spinning of nylon filaments to produce a nylon cord which will best lend itself to a smooth and uniform braid, resulting in the most flexible and easiest handling cord possible. This braid extends throughout the entire length of the cord and is not interwoven with any other material. It consists of only pure nylon thread.

A most important feature of nylon switchboard cords is that which commonly determines the success of cords in actual service conditions, i.e., nylon has less than one per cent moisture absorption rate and is not affected by common acids. In both laboratory and practical tests, it has been found that acid contained in perspiration, oils and grease has caused no appreciable wear or rotting in nylon as in the case of cotton fibres. The characteristics of rot resistance and fibre weakening due to acid are very important features of the nylon cord. The nylon braid is very smooth which permits ease and speed of handling on a busy switchboard. A slight fuzz may appear on the surface after nylon cords are first installed on a switchboard. This fuzz usually wears off in the same way as nap on a new carpet and will not affect the life or service of the cord.

When nylon cords become dirty they can be cleaned without injurious effect to the materials with a soap and water solution or cleaning solvent. Nylon cords, where desired, can be cut back by use of the same procedure as used for cotton cords.

Cable Terminal

A strand-mounting cable terminal of new design is now available for installation on 26 to 202-pair, lead or plastic-sheath cables. The terminal is placed on the strand eight inches from the pole. The cable is pulled through the terminal, leaving one foot of slack at the pole. It is installed without using stub, lead sleeve, ties or clamps. The cable is sealed into the terminal with split washers on each side of a gasket held in place by compression caps. The pairs selected for termination are attached to the punchings on the faceplate by the use of a machine screw and a washer. The wires are not cut and there is no soldering or splicing. The splicer doubles back the wires that are not terminated and stores them in the back of the terminal. A bag of desiccant is then placed in the terminal and the faceplate secured. The faceplate may be removed at any time to clear trouble, change count, or increase the size of the terminal. The 11, 16 and 26-pair faceplates are interchangeable.

Adhesive Surface Anchors

The adhesive surface anchor consists of a small perforated metal plate, at the center of which is welded a nail, bolt, spindle, prong or threaded stud. These anchors are available in a variety of shapes and sizes depending upon the material and load to be supported. The perforated base is especially designed to provide positive anchorage by bonding it with adhesive to masonry, metals, wall board, plaster, tile, glass, etc. These anchors may be equipped with pipe straps for supporting cable or bridle rings for wire runs. They are ideal for use in locations where the noise of drilling will prove objectionable.

The recommended safe load per anchor is five pounds for 2 ins. x 2 ins. square plate and 10 pounds for the the 2¾ ins. x 2¾ ins. square plate.

Manual Lightning Arrester

The installation of drain arresters on open wire lines has ever proved a good investment. A new type arrester is now available for this purpose. It is connected directly into the line wire about eight inches from the insulators at specified intervals along the line. This arrester consists essentially of a six-inch length of line wire with a Nicopress sleeve attached to each end. The ground wire is spiralled around the line between these two sleeves and insulated from it by the use of plastic spacers. The entire assembly is made waterproof by a plastic cover. The arrester is cut into the line wire by removing an eight-inch section and compressing the two unfinished sleeve ends.

The primary purpose of this arrester is to provide a number of additional low resistance paths to ground, and to drain and discharge heavy surges from the line to ground before they reach the regular station protectors. It is recommended that these arresters be placed at one mile intervals along the line. Installation on guyed poles is recommended in order that the anchor may be used for a ground connection.

Service Cable Hanger

This cable hanger has been developed for use on self-supporting plastic cables installed without messenger strand. The hangers are attached to pole hooks at intermediate poles between deadends held by Lay-cit grips. The hanger consists of a neoprene-impregnated glass fibre strap and is adjustable to all sizes of cable. The bail is hot-dipped galvanized steel. This strap is a special weave of pure glass fibre, flexible under all temperatures and will not cut or mar the cable.

The Lay-Cit Cable Grip

The grip provides a non-slip deadend for small self-supporting plastic-jacketed cables when used in lieu of drop wire. The double-gripping action of the plates and the extra holding power of the coated inner surfaces provide a secure tie that will not damage insulation or permit conductors to slip inside the jacket. Two or more pairs of plate assemblies may be hooked parallel together to provide special diameters to meet specific needs of unusual construction problems. Extra bail length may also be provided to meet special requirements so that plates can be assembled end-to-end so as to multiply gripping action without increasing plate pressure.

Drop Wire Holder

This new grip employs a "snub" principle which does not mar or injure drop wire insulations. It will hold all types and sizes of parallel or twisted-pair telephone drop wire beyond their rated breaking strength. It is also an insulator, as no metal parts touch the wire insulation. Wire holder grounds are thus eliminated. The die-mold plastic wheel has no sharp edges and the groove protects the insulation from damage by rubbing. The plastic is Tenite and the metal parts are commercial bronze.

New Cable Terminal

This terminal may be installed without the use of wiping joints, floating seams, or cutting and splicing wires. It can be cut into a cable in 15 to 45 minutes by one man standing on a pole with climbers and belt. A heavy rubber sealing plug, under pressure, vulcanizes itself directly to the cable sheath and the terminal case to form a gas-tight joint. This plug is protected from the atmosphere by a bronze washer that leaves only a small exposed surface. Rubber manufacturers estimate the life of this gasket to be approximately 50 years.

The faceplate and punchings of the terminal are fitted with gaskets to make it gas-tight. Each terminal is also provided with fittings for gas testing or for plugging the cable at this particular point to prevent the flow of gas. If desired, desiccant may be sealed into the terminal. The punchings are equipped with soft lead washers and a nut, for use in connecting the cable conductors.

This terminal is attached to the strand by means of a steel strap that is bolted to the top of the case over the strand. The ends of this strap

(Please turn to page 36)

THE OPERATOR'S Corner

BY
MAYME WORKMAN
TRAFFIC
EDITOR

IN THESE days of modern telephony, it is interesting to reflect upon the progress made in the handling of local and long distance calls and to compare the operating methods and practices of today with those of the so-called early days in the telephone industry.

Today we have inter-toll dialing, mobile service, picture and loudspeaker calls, and many other services which have been introduced and developed to make telephone service more pleasing and useful.

The younger generation of telephone people take many of the new inventions in telephony as a matter of course. This is a natural reaction as they have not experienced the trials and tribulations of operators in the bygone years when iron toll circuits were generally used and transmission was often inadequate to carry the message through.

In the Golden Anniversary issue of TELEPHONY, Jan. 13, 1951, the central office and switchboard of the Interstate Independent Telephone & Telegraph Co., in Springfield Ill., reproduced from the November, 1904, issue of TELEPHONY, was pictured. This picture took the writer back to 1907 when she was employed as an operator in this exchange. Miss Anne Barnes was chief operator at that time and, in checking with her, the writer learned it was she seated at the desk in the far end of the room. As early as 1907, operators in this exchange were saying, "Number, please?" Courtesy and proper central office etiquette were imperative.

Miss Barnes had an "Honor System" and operators were not corrected for an infraction of the rules. On the contrary, the operator at fault made the correction. For example, if an operator carelessly dropped a cord, she would call the chief operator or person in charge and report, "Position 19 dropped a cord." All of the operators were part of a team, working for courteous, efficient service. "Quiet operating" was an important feature and the chief operator "practiced what she taught." In all the years I have known my former chief operator, Miss Barnes, I have never known of an instance when she raised her voice. In a personal conversation or in training, her voice has always been pleasing, well modulated, soft spoken—and so it is today.

It is always a pleasure to reminisce, particularly when the conversation pertains to our experience in the telephone industry. In our recent conversation, Miss Barnes related an occasion when a man brought a cub bear into the operating room to test the girls at the switchboard. The chief operator had probably told him about her "Honor System" and that her "girls," as chief operators are wont to call them, would never turn their heads from the switchboard under any provocation. The gentleman also thought he could upset Miss Barnes's calm demeanor by bringing the little bear into her operating room. She was busy at her desk when the gentleman and the bear approached and, while he engaged her in conversation, the bear, of course, unaware of his purpose in being there, placed his paw on her desk. Glancing down and seeing the paws and thinking it was a dog, Miss Barnes placed her arm around the animal in a friendly gesture and never realized for some time that she was embracing a bear.

The writer has never forgotten the lessons she learned under Miss Barnes's kindly supervision. In later years when she, too, was responsible for the training and development of operators, supervisors, and chief operators, this early training was very helpful, for she had learned the importance of an individual's being placed on her honor, doing a thing because it was right, not because it was a "rule" and someone had stated, "It must be done as I say." Developing a desire in a student to do a thing voluntarily because she wishes to and understands it is the most proficient method of handling a call or situation and should be the aim of every instructor.

The Honor System developed a feeling of responsibility on the part of each operator. If a cord was dropped or jerked down, you may be sure adjacent operators would observe this infraction and, if the operator at fault would fail to report her error, well—you can assume what her standing would be with other operators.

An instructor in a central office is comparable to a school teacher. Her every action is observed by her pupils and, if she fails to measure up to their expectations, she is in for a rough time. Girls have excellent memories and often startle you in referring to an occasion that took place in the central office many years before. One of the most gratifying experiences for a chief operator or supervisor is to meet a former operator and, in the course of the conversation, to be reminded of a small act of kindness, patience, or example which made a favorable and lasting impression.

The writer recalls an operator she was privileged to train who developed the technique of cord handling almost to perfection, and it was her pride and joy in returning to the central office where the operator was employed to observe her work at the switchboard.

If you, too, have the privilege and responsibility of training new people or re-training experienced operators, never fail to remember, your actions, your attitude and manner are being carefully observed and the success or failure of your student is dependent upon the job you do. If the student has not learned, the instructor has not taught.

Traffic Questions

(1) After excusing a local call, when should the operator disconnect?

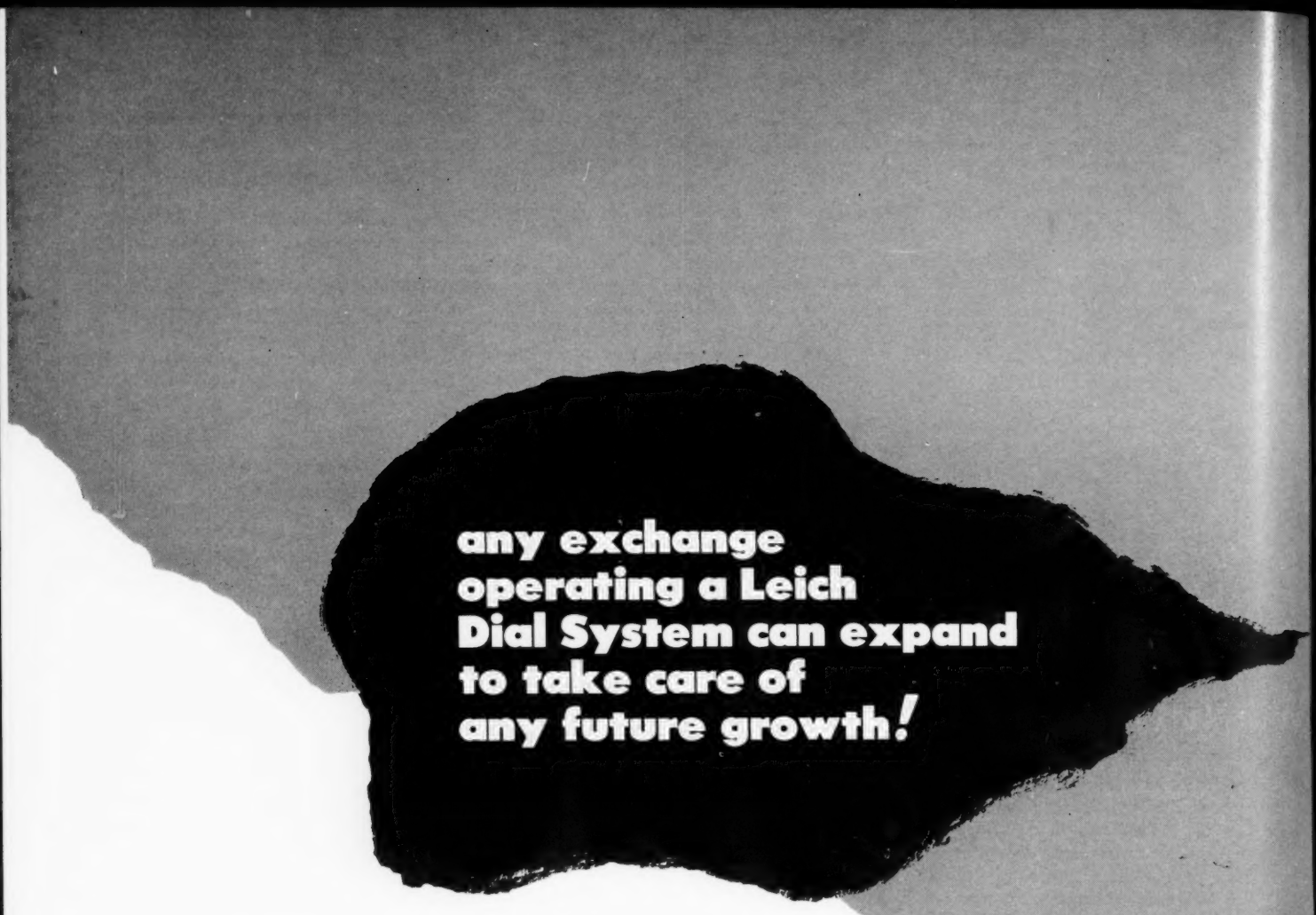
(2) If you have a local call for a line that is one of an underlined group, if some of the lines of the group are out of order and the remaining line or lines are busy, what procedure should you follow?

(3) On local, if you have a call for a line with a temporary suffix, such as, 5678-JX, and the corresponding quadrant is not marked, what report should be given to the calling party?

(4) What does the local code "tt" imply?

(5) If you have a call for a number and there is a white signal plug in the line bearing a number in green, how should the operator proceed?

Answers are presented on page 36.



and....no matter how large the board grows.... additional lines and links can be quickly and inexpensively jacked-in by their own people

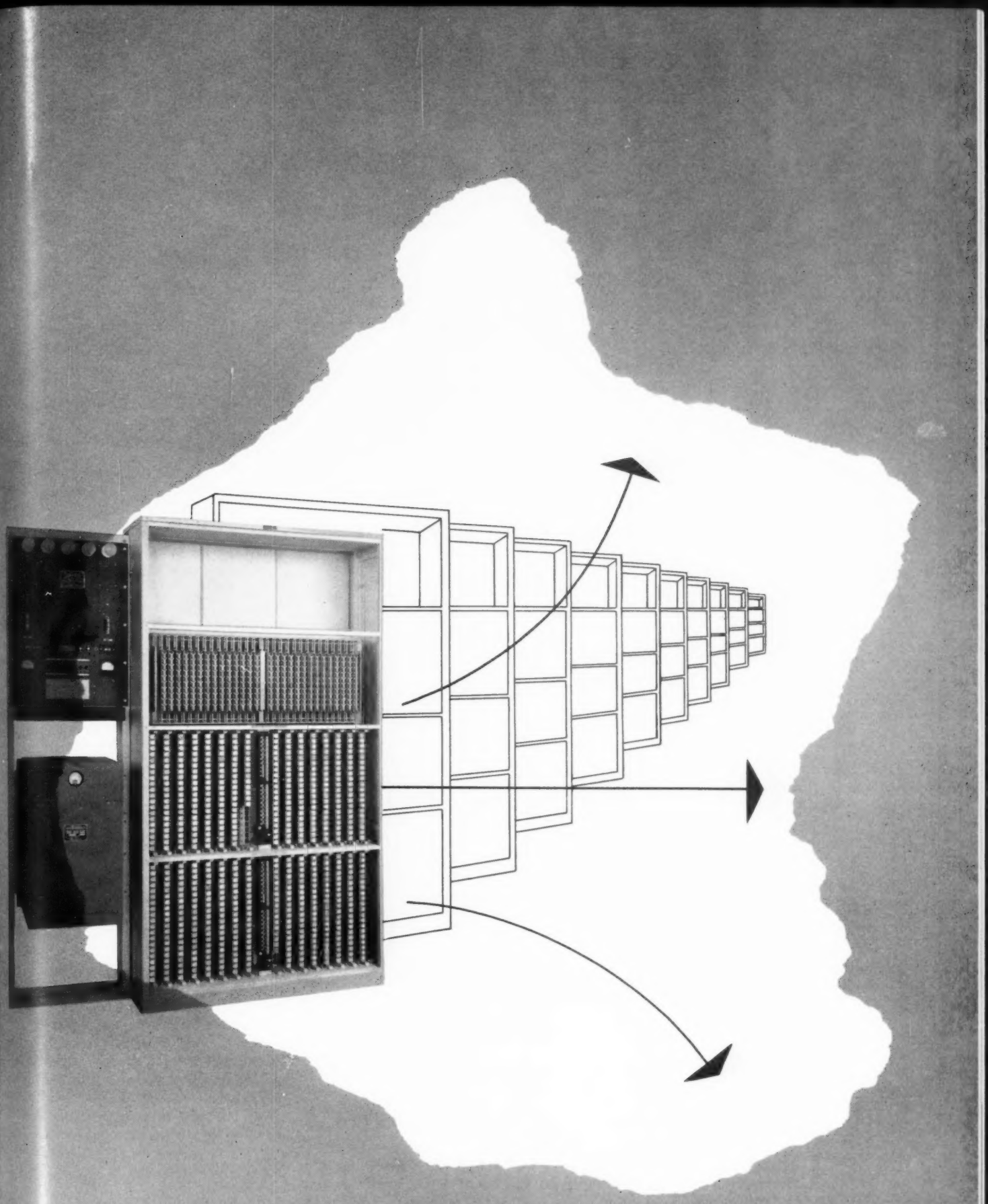
It's a wonderful, reassuring feeling to know that, once you've installed a Leich Dial System, you never have to worry about your exchange outgrowing the switchboard.

Your own man can add ten lines to your Leich dial switchboard in ten minutes. He can add a finder-connector link in an hour or so. No soldering, no intricate wiring, no factory installer needed.

Even more reassuring is the fact that you can grow by hundreds of lines too, by simply adding 100 line equipment bays. You can expand your Leich Dial System from 200 to 300 lines, from 300 to 400 lines, and so on up. It will be less expensive, faster, and less complicated than with any other similar type dial system.

The Leich Dial System was designed to provide a simplified, easier to understand and operate dial switchboard. Installations all over the United States are operating proof that this is so. Every desirable service feature can be furnished by the Leich Dial System. It will cost less to operate and maintain it. There's less to go wrong . . . and . . . there's also the comforting idea that your investment is safe because your Leich Dial System can be quickly, economically expanded whenever and however your exchange grows. Write today for complete information on the Leich Dial System. Leich Sales Corporation, 427 West Randolph Street, Chicago 6, Illinois.

LEICH



ANUFACTURERS OF TELEPHONES, SWITCHBOARDS AND RELATED APPARATUS SINCE 1907

Courts and Commissions

New Law on County-Owned Companies Proposed in Nebraska

A bill repealing the law providing for the creation of county-owned telephone systems has been introduced in the Nebraska legislature by Senators Person and Hill, who propose an entirely new law. Senator Person is from Saunders County, the latest one to turn down a proposal by a farm organization to apply the provisions of the old law and permit issuance of bonds to finance construction or purchase.

The proposed enactment requires county boards, upon petition of 10 per cent of the voters, to submit the question of county ownership, at a special or general election, and, if adopted, to levy a two-fifths of a mill tax on all county property, the purpose being to condemn and buy any existing company or to establish a county-owned system.

If sufficient revenue from this tax has not been accumulated in one year to carry out the above aims, the board shall submit the question of issuing bonds, not to exceed half of 1 per cent of the actual valuation of the county, with interest to be paid by special levy annually, if a 10 per cent petition has been filed. If necessary, the board may levy one-fifth of a mill annually to maintain and extend the system.

The board may contract for a telephone chief, who must give a $5,000 faithful performance of duty bond, for a term not to exceed five years. The board fixes all rates, which must be based on actual cost of service, with the goal of making the system self-sustaining and self-perpetuating.

If property is condemned for the purpose of a county system, the price fixed by appraisers does not become binding upon the county until approved by the voters at a special election. In lieu of general obligation bonds, the board may issue bonds redeemable, along with interest, out of revenues, if authorized at an election called by a 20 per cent petition or at a general election.

Any county maintaining such a system may contract with other counties or cities owning telephone property, or with privately owned and operated companies, for physical connections.

V V

Capital Structure Increase O.K.'d by Oregon Commissioner

George H. Flagg, Public Utilities Commissioner of Oregon, authorized the Oregon-Washington Telephone Co., Hood River, Ore., on Jan. 24, to sell at not less than the par value of $100 per share, plus accrued dividends, 1,500 shares of its 5 per cent preferred stock, and to sell at not less than $22 per share 5,000 shares of common stock without par value.

The proceeds from the sale of the stock are to be used for extension and improvement of the company's plant and for new construction.

Subject to a supplemental order to be issued by the commissioner upon receipt of a copy of an agreement entered into with the Connecticut Mutual Life Insurance Co. covering the purchase of the new issue of first mortgage bonds, the Oregon-Washington company may issue $750,000 of first mortgage bonds and sell them at not less than 100 per cent of their face value, plus accrued interest, to the insurance company at an interest rate to be fixed by the supplemental order.

Further, the company was permitted to supplement its presently existing mortgage indenture, dated Jan. 1, 1946, by executing a supplemental indenture to the Peoples National Bank of Washington in Seattle and E. L. Blaine, Jr., as trustees.

V V

N. D. Company Incorporates

Articles of incorporation have been filed in North Dakota for the Cedar Creek Rural Telephone Co., Reeder. It plans to build 50 miles of lines in

(Please turn to page 26)

KEEPING AMERICA STRONG IS EVERYBODY'S JOB

We must do everything humanly possible to keep America strong. This means we now have not one job to do—but *two*. A military job and a civilian job.

And the second is the responsibility of every man, woman and child in America today. We have to fight the enemy's *sixth column*—inflation *here at home! How do we do it?*

(1) We get firmly fixed in our minds that this is not a "living as usual" situation. We tighten our belts, give up certain things, make some sacrifices.

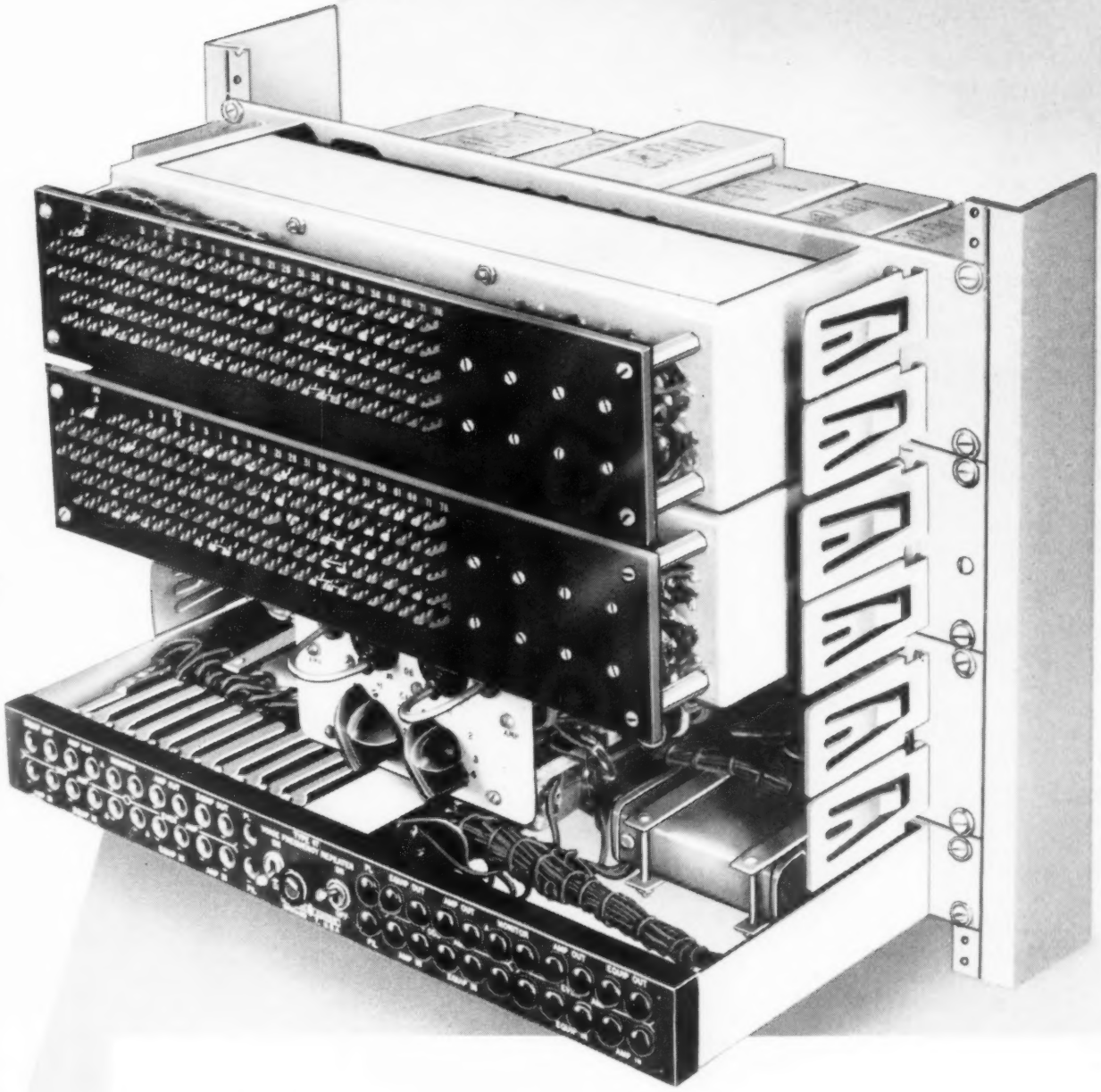
(2) We buy only what we absolutely must—for immediate needs.

(3) We support every effort to cut *to the bone* Government expenditures for non-military purposes. We can't build planes, guns, tanks, ships and at the same time "compete with ourselves" for bridges, dams, roads and social benefits we just don't have to have right now.

(4) We recognize the need for paying for every possible cent of our mounting expenses out of current income. The more we have to borrow now the more we mortgage our future and weaken the buying power of our dollars.

Let's be clear on one thing. There are two essentials to winning a war. One is victory in the field. The other is not to let ourselves be bled to death economically.

Protecting the buying power of the dollar is one of the most important jobs facing America today.—*Institute of Life Insurance.*



Unit Construction

Components can be selected for 2-wire or 4-wire circuits, for intermediate or terminal operation (intermediate, 2-wire repeater shown above). Compact assemblies mount in minimum vertical space on 19″ rack. Individual units can be quickly isolated for routine tests and maintenance.

High Volume Boost

Higher-than-ordinary amplifier gain gives maximum volume because choice of 61 line balancing units permits precise impedance matching. Choice of three low-pass filters—3500, 2850, 2450 cps—for various circuits, eliminates "singing," permits use of highest gain.

Automatic Cut-thru

In case of power or tube failure, the line remains operative. Relays automatically cut the repeater out of the line without disrupting transmission; these relays can also be wired to provide an alarm. Normal operation resumes automatically when power is restored or tube is replaced.

Adams, Hettinger and Slope Counties, at a cost of $3,120.

V V

Nebraska Exchange Sold, Will Continue to Operate

Robert H. Walker, operator of a small telephone exchange in Verdel, Neb., got quick action when he filed an application with the Nebraska Railway Commission on Jan. 23 asking leave to cease giving service. Mr. Walker told the commission that he had been operating in the red for several years, and that there was no likelihood of a changed condition. He also stated his wife, who has been operating the switchboard located in their home. is too ill to continue.

He said he had offered the property for $500, but there were no takers. Four days later, the commission was informed that the Verdel Community club had purchased the property. Mr. Walker's application was withdrawn.

V V

Indiana Associated Sells First Mortgage Bonds

Indiana Associated Telephone Corp., Lafayette, on Jan. 31 sold $1,600,000 principal amount of 3 per cent first mortgage bonds, due 1981, to a group of five insurance companies. Previously, the company had issued to General Telephone Corp., its parent, an additional $800,000 stated value of common stock in return for the cancellation of notes in an equal amount.

Proceeds from the sale of the bonds were used immediately to retire bank loans which had been incurred in connection with the temporary financing of new construction.

Indiana Associated, which serves 108,000 telephones in northern and central Indiana, now has a capitalization of $8,300,000 principal amount of first mortgage bonds, $2,292,000 stated value of preferred stock and $5,340,000 of common stock and surplus.

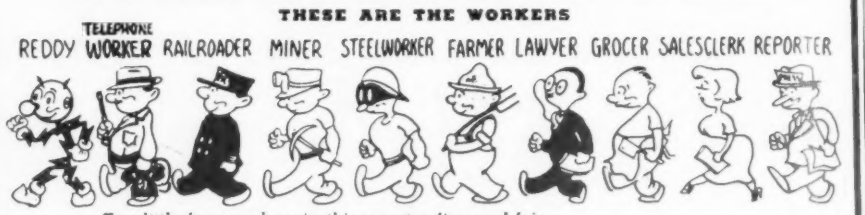
V V

Leased Circuit Rate Approved For Cozad, Neb., Company

The Cozad Mutual Telephone Co. has been authorized by the Nebraska Railway Commission to establish a leased circuit monthly rate of 35 cents per one-eighth mile for metallic service and half that figure where grounded service is supplied. The circuits are used for teletype service, and are in addition to the monthly charges for exchange service.

The commission ruled that the company may accept applications for party line service of a class regularly provided within the base rate area when a line fill probably will result. Rates fall within the classification of extra exchange, line mileage, and charges are computed on airline measurements from the point of boundary on the base rate area nearest the subscriber's location to that location and separately for each circuit or for each party line main station.

THE STORY OF TEN LITTLE FREE WORKERS



Ten little free workers in this country fine and fair.
But if you cherish your freedom—worker have a care!
Ten little free workers—Reddy was doing fine
Until the socialists got him—then there were nine.

Nine little free workers laughed at Reddy's fate
Along came federal telephones—then there were eight.

Eight little free workers thought this country heaven
But the government took over the railroads, then there were seven.

Seven little free workers—'till the miners got in a fix.
Uncle said coal's essential and took over leaving six.

Six little free workers 'till the day did arrive
The steel mills too were federalized—then there were five.

Five little free workers—but the farmers are free no more
The farms have been collectivized—that leaves only four.

Four little free workers till the government did decree
All must have free legal advice—then there were three.

Three little free workers—the number is getting few,
But with government groceries selling food—then there were two.

Two little free workers—our story's almost done,
With clerks at work in federal stores—that leaves only one.

One little free worker—the reporter son-of-a-gun
Mustn't criticize government—so now there are none.

Ten little workers—but they are no longer free
They work when and where ordered, and at a fixed rate you see.
And it all could have been prevented if they'd only seen fit to agree
And work together instead of saying "it never can happen to me!"

Courtesy of Potomac Edison News

Tyronza, Ark., Company Gets Rate Increase

An order granting increased rates to E. Ritter Telephone Co., Tyronza, was issued on Jan. 24 by the Arkansas Public Service Commission.

New rates which were made permanent in the order call for an increase of $1.00 for business telephones and 25 cents for residence telephones.

The E. Ritter company filed for the rate increase in January, 1950, to become effective when dial service was installed.

The commission order also called for elimination of toll charges on calls to Marked Tree.

V V

Oregon Rate Increase

A rate increase was granted the Rhododendron Telephone Co. on Jan. 26 by the Oregon Public Utilities Commissioner. The company's revenue will be increased by approximately $800 annually. It was also given permission to establish a $2.00 reconnection charge when an instrument remains in place.

V V

Arkansas Exchange Sale

Sale of the Humphrey telephone exchange to the Southwestern States Telephone Co., Brownwood, Tex., was authorized on Jan. 19 by the Arkansas Public Service Commission. The property was sold by G. A. and Venala Gilliam.

V V

Missouri Company Purchased

Mr. and Mrs. Glen Parks, Leonard, Mo., have bought the Leonard Telephone Co. from Mrs. Earl Crow, and took possession of the business Feb. 1.

V V

Summary of Commission Rulings and Hearings

California Public Utilities Commission

Jan. 29: Hearing on application of California Water & Telephone Co., Monrovia, for authority to provide temporary, business, four-party, extended service in Monrovia and San Fernando exchanges.

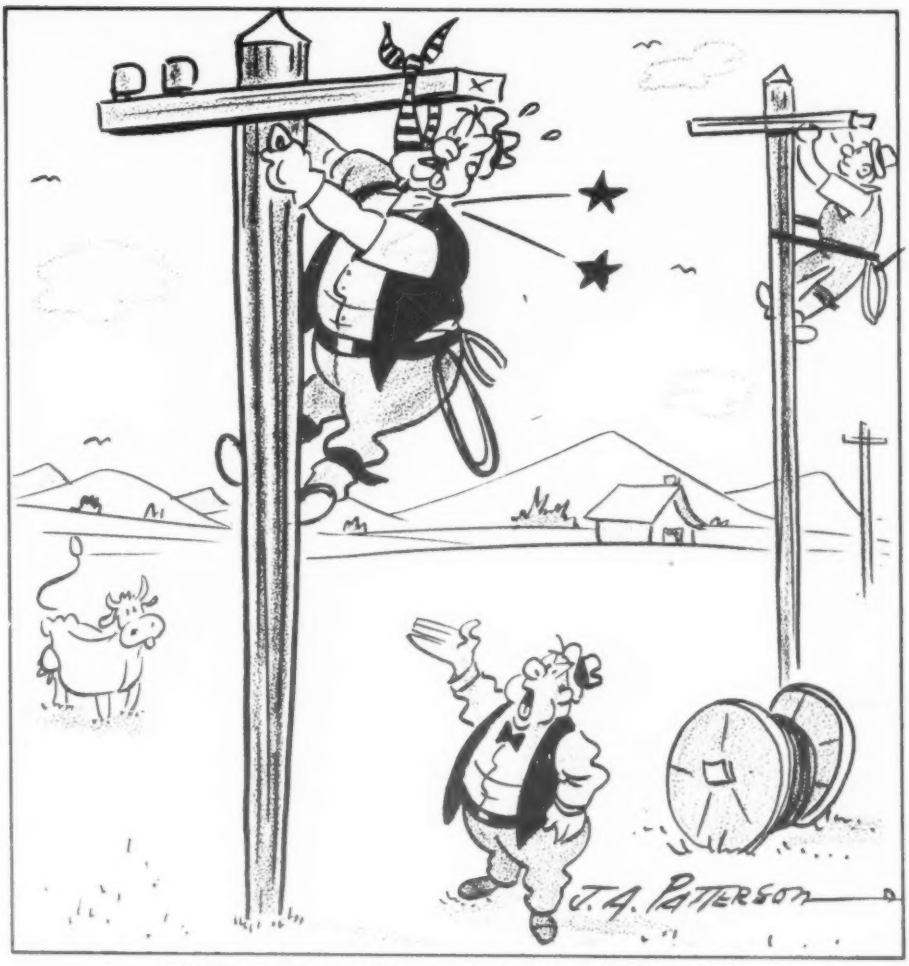
Florida Railroad and Public Utilities Commission

Feb. 19 & Mar. 27: Hearing on application of Southeastern Telephone Co., Tallahassee, for authority to increase intrastate rates.

Illinois Commerce Commission

Feb. 6: Hearing on application of Middle States Telephone Co. of Illinois, Park Ridge, for authority to increase rates.

Feb. 7: Hearing on application of Southwestern Bell Telephone Co. for authority to increase rates.



"NEXT TIME, MAYBE YOU WON'T FORGET YOUR SAFETY BELT!!"

Feb. 7: Hearing on motion of the commission for establishing a uniform system of accounts for companies with annual operating revenues between $10,000 and $50,000.

Feb. 7: Hearing on application of The 4C Telephone Co., Rankin, for authority to increase rates at Cissna Park, East Lynn, Rankin and vicinity.

Feb. 8: Hearing on application of Hardin County Telephone Co., Cave-In-Rock, for authority to increase rates at Cave-In-Rock, Elizabethtown and Rosiclare.

Feb. 8: Hearing on complaint of S. Rosenberg as to alleged rate discrimination, for additional message on coin box business service and message rate business service, by Illinois Bell Telephone Co.

Kansas Corporation Commission

Feb. 12: Hearing on application of Wetmore Telephone Co. for authority to change rates.

Feb. 12: Hearing on application of The Reno Telephone Co., Abbyville, for authority to operate in Abbyville and Plevna, and on application of A. P. Telephone Co., Abbyville, for permission to cease business.

Apr. 9: Hearing on application of the Waco Telephone Co. for authority to operate in the eastern part of Cherokee County and southeast part of Crawford.

Missouri Public Service Commission

Jan. 25: Hearing on application of E. G. and Mildred Stude for authority to sell the Bland Telephone Co., and A. L. Henderson to buy; and for authority for the buyer to issue a mortgage note of $8,500.

Oklahoma Corporation Commission

Feb. 13: Continued hearing on application of Mr. Allen vs. Southwestern Bell Telephone Co., for telephone service in a new addition to Oklahoma City, not at present serviced.

Feb. 14: Continued hearing on application of Kellyville Telephone Co. for authority to increase rates.

Feb. 15: Hearing on application of J. B. Carel for authority to discontinue service at Ninnekah.

Feb. 23: Continued hearing on application of Southwestern Bell Telephone Co. for increased rates in Oklahoma.

Wisconsin Public Service Commission

Feb. 6: Hearing on the matter of extension of Hurley service, brought by O. Kaari vs. Wisconsin Telephone Co.

Feb. 6: Hearing on application of Bayfield Independent Telephone Co. for authority to sell its property to Chequamegon Telephone Cooperative.

Feb. 7: Hearing in the matter of extension and adequacy of service, brought by H. White *et al* vs. Dukes Prairie Telephone Co. and Wisconsin Telephone Co.

Feb. 8: Hearing in the matter of adequacy of service, brought by the Rev. C. Wise *et al* vs. Home Telephone Co., Richland Center, and Commonwealth Telephone Co., Madison.

MAINTENANCE TESTING EQUIPMENT

By JOHN A. BRACKEN

DUE to rough usage to which they are subjected in service, switchboard cords become frayed. They also develop cut-outs, resulting in noise. This may become quite troublesome if not located and removed quickly.

A testing arrangement for the purpose of locating certain kinds of switchboard cord trouble, can be provided by modifying the test set referred to in *Fig. 2* of Part XXXVI (TELEPHONY, Jan. 6, p. 19) to include jacks, keys, an additional binding post, and a resistor, as shown in *Fig. 1*.

The resistor should be of such ohmic value as to prevent an excessive current from injuring the milliammeter when it is connected to an external battery. As for example, when the meter is connected in the sleeve of a common battery switchboard cord circuit.

Suppose a magneto switchboard cord is to be tested for cut-out trouble. First, place locking keys K1 and K2 *(Fig. 1)* in their normal position. Next, place the associated talking key of the cord pair being tested in normal position, and insert the plug of one of the pairs into the test jack *(Fig. 1)* designated "M1" and the plug of the other cord into the "M2" jack. Test each cord separately by first holding the plug of one cord firmly in the jack with one hand, then with the other hand, grasp the cord about five inches from the plug and shake vigorously. Then repeat the procedure with the other cord.

This procedure tests the sleeve conductors of both cords. If there is a cut-out in either cord, its presence will be indicated by an erratic movement of the milliammeter needle. A complete break (open) in the cord is indicated by there being no deflection on the meter. To test the tip conductors of the cord pair, operate key "K1" and repeat the operations outlined above.

The associated talking key spring contacts may be tested for faulty contact by leaving the cord pair plugged into jacks "M1" and "M2," with the test set key "K1" normal. Move the talking key lever rapidly from side to side, taking care to keep the talking key in its normal position.

During the performance of the test, if the contact between springs on the talking key is defective, its presence will be indicated in the same manner as a cord cut-out. Operate key "K1," and repeat the test.

PART XXXVII. The preceding article in this series appeared in the Jan. 6 issue, p. 19.

Fig. 2 is a simple schematic drawing of a magneto switchboard cord circuit and serves to trace the test circuit path through the respective tip and sleeve conductors of the answering and calling cords. When the test set key "K1" is normal, the test battery and milliammeter are connected through "K1" and in series with the sleeve conductors of the switchboard cords. With "K1" operated, the tip conductors of the cords are similarly connected.

Common battery switchboard cords are tested by inserting the plugs of the cord pair into the test jacks designated "CB1" and "CB2" *(Fig. 1)*. The tip and ring conductors of the cord pair are then tested in the same way as given for testing the tip and sleeve

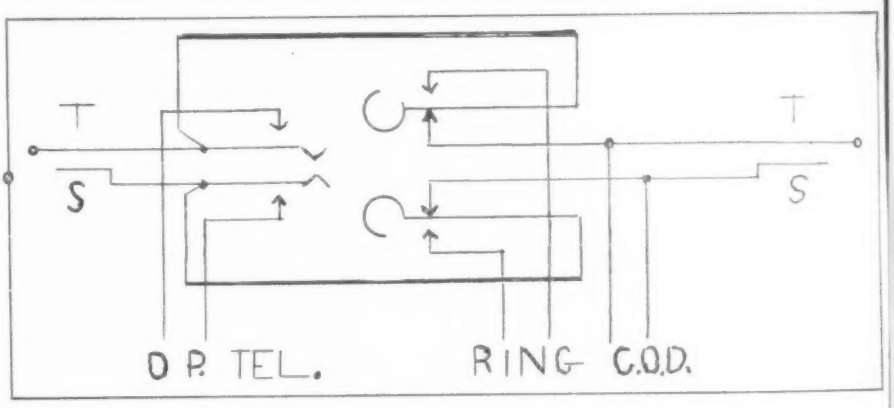


Fig. 1

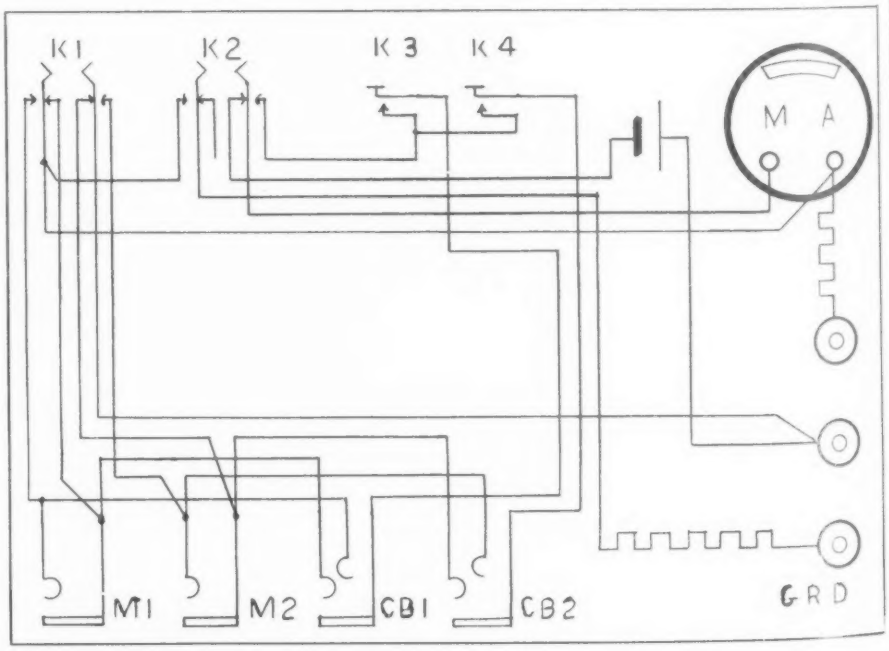


Fig. 2

conductors of magneto switchboard cords.

In order to test the third or sleeve conductors of the cord pair, it will be necessary to proceed as follows: First, connect ground to the test set binding post marked "GRD," place key "K1" in its normal position and operate locking key "K2" which will disconnect the test set battery from the meter.

To test the sleeves of the cords in jack "CB1" and "CB2," respectively, depress locking keys "K3" and "K4." Operate first one key and then the other, hold the respective key depressed and at the same time shake the associated cord and observe the meter for an erratic movement.

To test for the tip and sleeve of a two-conductor switchboard cord, or the tip ring and sleeve of a three-conductor cord, being crossed, first disconnect the cord at the cord fasteners inside the switchboard, then touch one of the test set cord test picks to the switchboard cord tip conductor terminal and the other test pick to the other terminals of the cord. If a reading is obtained on the meter, it indicates that the respective cord conductors are crossed.

(To Be Continued)

V V

"Most Americans are not favorable to government ownership of public utilities, for the very good reason that they know, that with few exceptions, they will get more and better service for less cost from privately owned and operated concerns than they would get under cumbersome government management with its ever increasing red tape and graft."—Ashland (Kan.) Clipper.

• • •

"The most obvious proof of the excess profits tax's awkwardness is the fact that 45 per cent of the taxes raised by the excess profits tax during World War II are still subject to litigation in the courts! Never before in history has a tax system caused so much legal trouble nor has there ever been a tax more difficult and costly to collect."—Scottsburg (Ind.) Chronicle.

• • •

"Every time the government takes over a business enterprise it hits the taxpayers . . . it drives out of operation heavily taxed private business."—Jeffersontown (Ky.) Jeffersonian.

• • •

"The country indeed faces a dismal future if the program is not to curtail spending, but only to choose between whether to get the money by borrowing or by more taxation. . . ." — Long Prairie (Minn.) Leader.

Meditation at a Switchboard

"Number, please. Thank you."

Two more hours till lunch time.
Gosh, what a long drawn out day.
If my days off were half as long,
I'd not have a gripe to say.

"Number, please. Thank you."

There now young Tim Mahoney
Talk till your heart is content
You've wooed Barby Dale for years now,
Oft have I heard your lament
That she just wouldn't take you
And accept your name for life.
But now I see by the papers
That soon she will be your wife.

"Number, please. Thank you."

Old Mrs. Macon Minerkle
She's really a fine old dame.
Once she was top notch in acting,
Too bad she out-lived her fame.
All she has now are her memoirs;
Boy, how she loves to recite
And tell of her grand-slam parties
She had on her opening night.

"Number, please. What is the number, please? Thank you.

The Mayor you want in person?
Lady, that's just what you'll get.
Probably a gripe from ole Feely.
These ladies just fume and fret
If everything isn't in order
And exactly the way it should be;
But I guess he's used to their wailing.
I'm sure glad it's him and not me.

"Number, please. Thank you."

Ma Lawson calling the grocer.
That must be six times today.
I heard she just got the glad news
That her Johnny is on his way
To spend the week-end at home now.
She can hardly contain her joy;
She sounds so young and excited.
She really dotes on that boy.

"Number, please. Yes, this is the operator. I'm sorry you had to wait. What number, please? Thank you."

No, madam, I have not been napping!
Lord, what a crabby old cuss.
She thinks we just sit here a-nodding;
But that's the opinion of us
That more than one person has given
And said for the whole world to hear.
They think we should answer their signal
Before the telephone reaches their ear.

"Number, please. Thank you."

Tom Baxter's call to the florist.
That's a weekly event.
I wonder what kind of flowers
He orders each week to be sent
To his wife. She's an invalid
And a very beautiful girl.
I guess he completely adores her.
Love sure keeps this world in a whirl.

"Number, please. Thank you. The line is busy. Is it an emergency? One moment, please, my supervisor will get the line for you."

An emergency call for Doc Warren!
Why, that's little Ellen Wright.
I wonder if her mother is failing?
That's sure a pitiful sight:
Just those two alone in that old house
And death keeps hovering so near.
Poor kid, I guess she'll be lonesome
When her mother is no longer here.

"Number, please. Thank you."

Jean Nelson calling her lawyer.
Guess she and Bob had a fight.
Their marriage started so nicely
But something just wasn't right.
And now, it seems, they've been talking
And are thinking of saying good-bye.
You never know what the outcome.
He seems like such a nice guy.

"Number, please. Thank you."

Well, look at me! I've a full board—
Just a tangled up mass of cords;
A bunch of inanimate objects
But a whole universe of words.
Weavers of Speech, they call us;
Weavers of Life, I would say.
For there in that jumbled confusion
Is everything we know today.
There's life and there's death and there's love;
There's peace and contentment within;
There's dreams of the youth and the aged;
There's a chance to lose or to win.
There's all we hold dear in our own hearts;
There's God and chance and fate;
There's promise and faith in the future,
There's destruction, despair and hate.
As those cords lap over each other
So do the things they contain,
For life is but one overlapping
Of joy and pride and pain.
Sometimes I feel like I'm helping,
Though it's in a very small way,
To give the world an audition
For the life they are living today.

"Number, please. Thank you. The line is busy. You're welcome."

—Carmen Rose
Operator
Columbus, Miss.

Good Place to Work

It speaks well for any business when many members of the same family want to work there. That happens often in the telephone business.

The advertisement on the opposite page, appearing in national magazines during February, tells how good jobs and good people add up to good service at low cost.

An advertisement of the
BELL TELEPHONE SYSTEM

Career girl, 1965

Little Miss Telephone herself. Thirty-five members of her family have worked for the telephone company.

That's Karen Terry — She's just three and cute as a button. Already she's decided to be a telephone operator when she grows up.

There are many reasons for her choice. For Karen is related to an interesting telephone family in California. Thirty-five members of this family have worked for the telephone company in the past sixty-five years.

Lots to Talk About — When Karen's Aunt Ella was asked what the dinner conversation is like when they get together, she said — "Why we talk shop, of course. All about the telephone company and our friends there."

It's that way with thousands of other families throughout the country. One Bell Telephone Company found that 2800, or ten per cent, of its employees had members of their families in telephone work.

Stepping Ahead — A young man doesn't follow his Dad in a job unless Dad says, "Come along, son — you'll find it as good a place as I did." You won't find sister following sister, and brother following brother into telephone work without reason. They like the work and the company.

Good people in good jobs help to give this country the best telephone service in the world at low cost.

BELL TELEPHONE SYSTEM

THE PLANT MAN'S *note book*

BY RAY BLAIN TECHNICAL EDITOR

TEN YEARS ago only 55 per cent of the Bell System's telephones were dial operated; today about 72 per cent have been converted to dial. Despite this fact, there are about 100 per cent more operators in the Bell System today than there were 10 years ago.

• • •

We are in receipt of a letter from Parke W. Pearson of Chicago in which he makes the following comment:

"I do practically no travelling by rail, and have heard only the jargon in local stations, but agree with your article of Aug. 12 on the lack of intelligibility of many public address announcements with one exception: the Dearborn Street station in Chicago. The calls over this public address system are clear and distinct—even out in the train shed."

• • •

It has been said: "Truth is not only stranger than fiction, it is usually more interesting."

• • •

The current five-year plan in Russia, we understand, is one year and three purges ahead of schedule.

• • •

Bob Hope describes television as: "People look like they are peeking through the portholes in a submarine."

• • •

The business man's definition of confidence: "The feeling you had before you knew better."

• • •

Hidden taxes, according to very careful estimates, now cost every family a minimum of $700 a year. Remember that's just the taxes that are concealed in the price of everything you buy. Those taxes, added to the others you pay now, take 25 cents out of every dollar earned. To put it another way, each wage earner in this country works 59 days out of 235 working days a year just to support the government.

• • •

A sticker bearing the following statement was recently placed on all telephone instruments in the Pentagon: "CAUTION — UNCLASSIFIED TALK ONLY."

The Department of National Defense has always been security conscious and the transmission of classified information over the ordinary telephone has never been authorized. However, this is the first time to the writer's knowledge that a warning has been placed on each instrument. Perhaps the recent investigation of wire tapping in the nation's capital influenced this action.

Contrary to the general belief, wire tapping is not new. The writer remembers that, well over 35 years ago down in Oklahoma, when frequent requests were made of local telephone workers in small exchanges to arrange listening devices, in order that information could be obtained to prove certain facts on particular people. We also knew of a few cases where the more adventurous telephone workers arranged these listening devices for a "consideration." These cases, to the best of our knowledge, were never publicized and we are not certain that the required information was obtained. It is possible that they were settled quietly out of court.

We must admit that wire tapping in the old days was rather crude, and that recorders were not available for use as proof of conversations in court. From all indications, it is an exact science today, which only confirms our frequent contention that anyone who will trust important secrets to an ordinary telephone conversation takes a real chance indeed.

• • •

It appears that colored telephones may be used to good advantage when two instruments must be installed on a single desk, one for the regular service and one for intercommunication. The intercommunication instrument in color will avoid getting the two confused.

When the colored set is not desired, a hanging handset type could be used to provide a distinctive type for intercommunication service.

• • •

We often wonder why the sound-powered telephone is not more extensively used in commercial communication telephone systems. This type of telephone has been approved by the U. S. Coast Guard Marine Inspection Service as a vital means of communication from the navigation bridge to the engine room, and other places aboard ship where the maintenance of reliable communication is a "must."

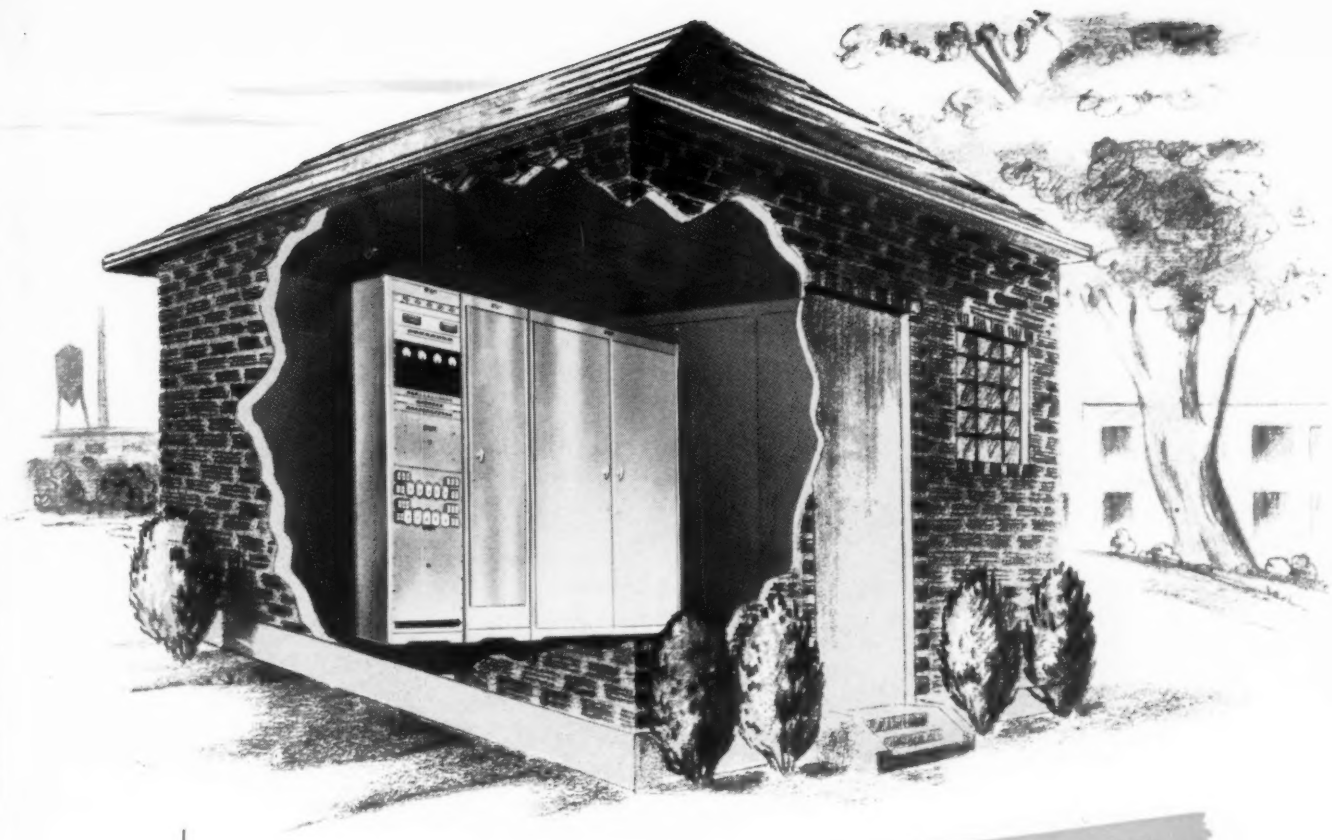
Sound-powered telephones are also used on most naval vessels between various battle stations where communication must be absolutely dependable at all times. Further, the oil companies use this type of telephone for communication between drill rigs where it is necessary to have telephones which will not ignite explosive gases. Coal mines are also using them for communications between the various levels of the mines.

• • •

A new six-watt, portable, fluorescent light that weighs only nine pounds should prove extremely popular in the communications field for use as a trouble lamp or to provide emergency light.

This lamp operates on either 50/60 cycles, 110/120 volts ac or dc current. It may also be operated from internal batteries, consisting of two standard 45-volt "B" batteries, which will give approximately 45 hours of intermittent use; or two external, standard, double-duty 45-volt "B" batteries may be used, which give approximately 350 hours of intermittent service.

This device should provide adequate emergency light for the operation of a small switchboard during power failures.



"BIGGEST" BUILDING IN TOWN

IN THOUSANDS of communities throughout the world, neat but inconspicuous buildings like this are housing the most important function in town. Without them the industrial, commercial and private activities of each community would be paralyzed.

For these are the automatic central exchanges of independent telephone companies, housing North "All-Relay" automatic switching equipment. And they can be just this simple.

Day and night, come foul weather or fair, come a single emergency call to a doctor, or the line-loading rush of a busy business day, these simple exchanges handle every local call instantly, without anyone going near the building for days at a time. Here is the "silent partner" in the local telephone company, serving with an efficiency and low cost that only North "All-Relay" switching can provide.

Consult a North Field Engineer
about your central exchange problem.

Don't wait until restrictions prohibit delivery

THE NORTH ELECTRIC MANUFACTURING CO., Galion, Ohio, U. S. A.

Originators of **ALL RELAY** *Systems of Automatic Switching*

PLANT MAN'S QUIZ

Q. What method should be used in the recovery of lead-covered, buried cable in order to avoid injury to the sheath?

A. Generally, we would not recommend that the recovery of lead-covered, buried cable be attempted. If there is some special reason for its recovery, then it must be dug out carefully by hand. Care should be observed in this operation in order to avoid injury to the sheath, which is almost impossible.

In our opinion, it will prove more economical to purchase new cable rather than attempt to reuse recovered buried cable.

• • •

Q. We are in need of some information on the protection of subscribers' station equipment.

With the exception of a relatively few lines which are exposed to unusual power hazards, our company has never installed station protectors between drops and inside wire on subscribers' premises, and, while our experience would not justify the major expense of equipping our stations with protectors, higher joint pole power voltages and other factors make it advisable for us to consider these protective devices.

Before making any decision on this subject, we have to satisfy ourselves that we would be conforming to accepted practices in the Independent telephone field and that the large initial expenditure and increased maintenance expenses would be justified. It will assist us greatly in considering this problem if you would give us specific answers to the following questions:

1. Do you know of any operating companies that do not provide station protection? If so, we should like to be provided with their names.

2. Do you consider station protection one hundred per cent effective?

3. Do you know of any cases where station protection was installed and where a fire was started because of an electrical discharge over the telephone drop wire, or where a person was injured?

A. The question of what may be considered adequate subscribers' station protection is one that has been long debated among telephone engineers. Personally, we believe that protection may be classed in the same way as insurance and that in most cases the cost is justified.

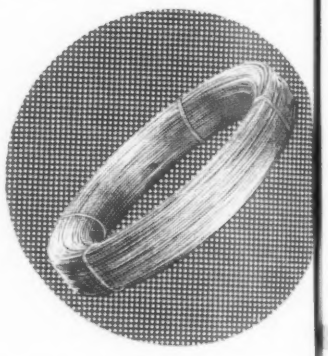
The accepted telephone practice is to provide protection on all telephone stations served by conductors which are subject to disturbances from lightning or to the possibility of contact with a foreign circuit of more than 250 voltage between wires. Such stations are referred to as "exposed stations" and the lines serving them, "exposed lines." The presence of power circuits of more than 250 voltages in grounded metallic sheathed cables, in non-metallic sheath cables with grounded messenger, or in fixed wiring in or on buildings does not change the status of otherwise unexposed telephone plant.

We are of the opinion that protection should be designed to meet particular plant and climatic conditions. An open wire plant in a region subjected to severe lightning storms will require better protection than a cable plant in a region where lightning storms occur seldom. It is evident that when the cable plant is underground from the central office to a building and the power wiring within the building is in grounded conduit so that a power cross would not be possible, telephone protection will rarely be considered necessary. It is generally conceded, however, that when joint pole lines are used and power circuits and telephone lines are supported on the one line, adequate protection is considered necessary.

At the present time, we do not have a record of any operating telephone company of any size that does not provide protection on its exposed stations.

We doubt that any type of station protection could be considered one hundred per cent effective in all cases. We have heard of some cases where lightning passed over a protector and burned out the telephone and damaged the house wire. It may be that in these cases the protectors were not of the proper type or that the ground connection was not adequate. We do not, however, have any record of persons being injured or of a fire having been started because of lightning or a power cross coming into a house over a telephone drop wire and passing through a station protector. Even the best protectors will not prove effective unless they are equipped with a low resistance ground connection.

It is hoped that our readers will

Construction
With the Doub
and Americ
crapo high-tens
line wire
Reduces Over-all Co

A net saving of 10 to 15 or more pole s
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structures mean substantial savings in
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Crapo HTL-135 makes possible spa
350 feet in heavy, 450 feet in medium
500 feet in light loading areas. Its pra
economy should be considered for
extensions and where old lines are
replaced.
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spans of 225 feet in heavy, 325 feet in
dium, and 375 feet in light loading dist
provides stronger spans on existing
structures. Both wires possess sup
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Construction Practices for *Crapo* H
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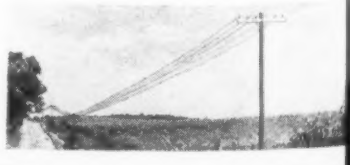
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For telephone men who prefer the best.

The Cook A-9u Lavite fuse is rated to blow on a 50% overload within 5 minutes.

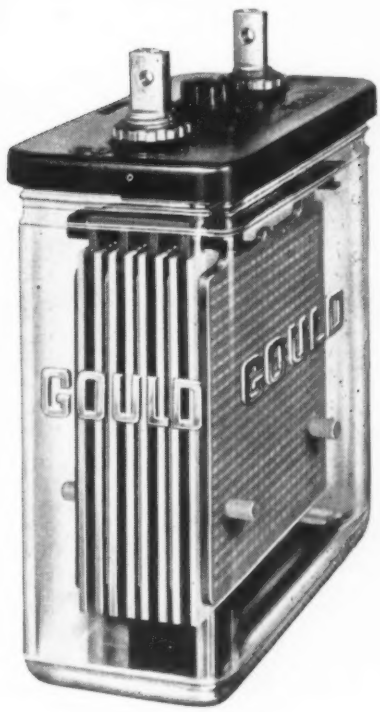
This is in accordance with Underwriters' specifications and this fuse carries Underwriters' approval.

Cook also manufactures a full line of fuses carrying "Telephone Rating." These fuses blow instantly at their rated capacity.

Mfd. by Cook Electric Co.

gould planté . . .

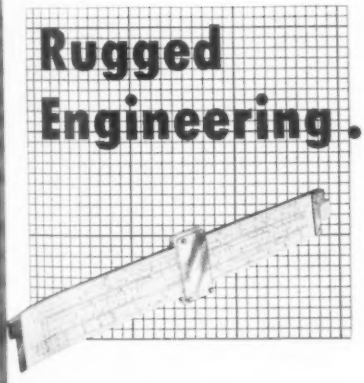
the aristocrat of stationary batteries



Many Planté batteries are still in active full-float service after twenty, thirty, even forty years! That's because Planté plates are heavy, solid sheets of pure lead. In these batteries Gould has eliminated the primary cause of self-discharge, capacity losses and shortened battery life. Cut maintenance, charging and replacement costs to a minimum. Choose Planté.

Made by
GOULD-NATIONAL BATTERIES INC.

Rugged Engineering . . . *makes your* Stromberg-Carlson telephone *best in the long run!*



Telephone instruments, like *all* equipment made by Stromberg-Carlson, are built to standards far higher than ordinary usage demands. Why accept anything else?

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write and express their opinions on this important subject.

• • •

Q. Would it be possible for us to procure creosote and treat locally-cut poles for use on our lines?

A. While this is possible, we doubt that it would prove either desirable or economical. The brush or dip treatment will lengthen the service life of native poles somewhat, but approved treatment to insure maximum life should be performed in a properly equipped plant.

It is our opinion that it will prove more economical for you to procure treated poles from one of the recognized and established pole suppliers.

• • •

Q. What rules should be observed in the maintenance of a motor generator battery charging set used in a dial telephone exchange?

First, it is necessary to check the general cleanliness of the machines at regular intervals. Wipe the surface of the machines clean with a piece of cheesecloth. Check for excessively hot or noisy bearings and lubricate when necessary. Remove any possible accumulation of carbon dust on brushes and brush holders. Check for the presence of grease on commutators. Check, also, for possible pitting or grooving of commutators. If this condition is noted, stop the machine and lift the brushes and rub the contact surfaces with a special canvas pad reserved for this purpose. In addition, rub the commutator face with this canvas pad.

Commutator segments may wear to the point where the mica insulation between them extends above the surface of the commutator. When this happens, the mica should be undercut by the use of a special tool made from a hacksaw blade. The mica should be cut away to a point about one thirty-second of an inch below the surface of the commutator. The undercut slots should be thoroughly cleaned.

Check the floating voltage by reading the voltmeter on the power panel. On most systems, this voltage should be between 50 and 53 volts.

Measure brush tension with a special spring balance provided for this purpose. When a slip of paper can be drawn from between the brush and commutator, the tension should be between two and three pounds per square inch. The tension should be adjusted, if necessary, by changing the setting of the spring.

Cut Earth Boring Costs WITH THE PENGO EARTH AUGER

A scientifically-designed double helix auger that:

★ Bores in any kind of soil, hardpan or decomposed rock

★ Bores clean, straight holes of the specified diameters—saves concrete

★ Saves power, minimizes wear and tear on your earth boring machine

★ Eliminates repair trips to shop... hard-facing expense

"You'd be surprised where the PENGO Auger will bore!"

"THE MOST PROFITABLE TOOL YOU EVER BOUGHT". Order a PENGO for your present machine . . . specify PENGO augers with your new machine.

Available in nine diameters to 36" (actual HOLE sizes) for use with all popular makes of earth boring machines.

ORDER TODAY . . . OR SEND FOR LITERATURE, PRICES

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4126 Twenty-Sixth Street, San Francisco 14, California

Factory: 460 Kifer Road, Santa Clara, California

New Techniques, Equipment

(Concluded from page 18)

form a hook to hold the bail of the drop wire clamps. Drop wire enters the binding post chamber of the terminal through a small, sealed rubber gasket, which may be tightened around each wire to prevent the entrance of dust or moisture. In addition, the lid of the chamber is likewise equipped with a sealing gasket and two screws to make it moisture-proof and prevent faceplate leakage.

V V

Indiana Co-operative to Serve Bartholomew, Brown Counties

The newly formed Bartholomew County Co-operative Telephone Association announced on Jan. 25 that it had made application for a loan from the Rural Electrification Administration.

If granted, the first aim of the association is to purchase the Pike's Peak Telephone Co., Ogilville, which serves a section of western Bartholomew County.

It is the intent of the association ultimately to bring telephone service to an estimated 2,000 families in Bartholomew and Brown Counties.

Fred H. Suhre is president of the association; Harold Friedersdorf, vice president; J. G. Newsom, secretary, and Floyd Homsher, treasurer.

Ted R. Kennedy, manager of the Bartholomew County Rural Electric Membership Corporation, has been named manager of the telephone association.

Answers to Questions on Page 19

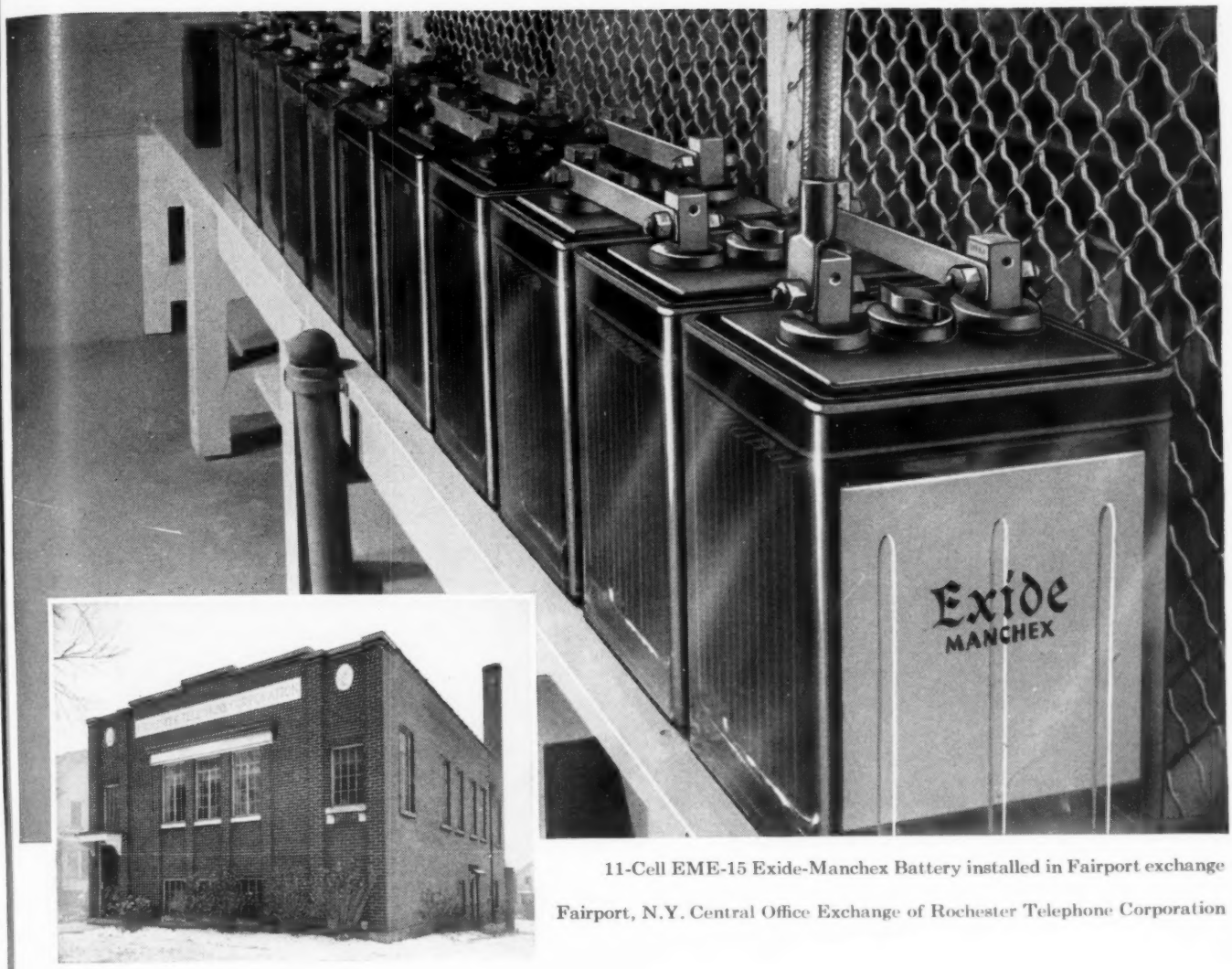
(1) Disconnect when the customer hangs up.

(2) Proceed as for a busy call.

(3) Say, "5678-JX has been changed to 5678-J," add, "One moment, please?" and proceed to establish connection.

(4) This code indicates that calls for the desired number are being temporarily transferred to a different number.

(5) Give no report and proceed with the call for the number shown on the plug.



11-Cell EME-15 Exide-Manchex Battery installed in Fairport exchange

Fairport, N.Y. Central Office Exchange of Rochester Telephone Corporation

Another Exide-Manchex Battery For Rochester Telephone Corporation

The choice of experience! With two dependable Exide-Manchex batteries already in service in other stations, Rochester Telephone Corporation specified another Exide-Manchex for its Fairport, N. Y. Exchange.

Here are the reasons: In selecting the Exide-Manchex for this exchange, Rochester Telephone engineers knew from experience that they could count on positive, dependable operation, all-round economy, and low-cost maintenance for many years to come. And you can get these same advantages in your exchange. For all stationary battery requirements—common battery, emergency reserve, signaling, PBX, and other applications—specify Exide-Manchex batteries!

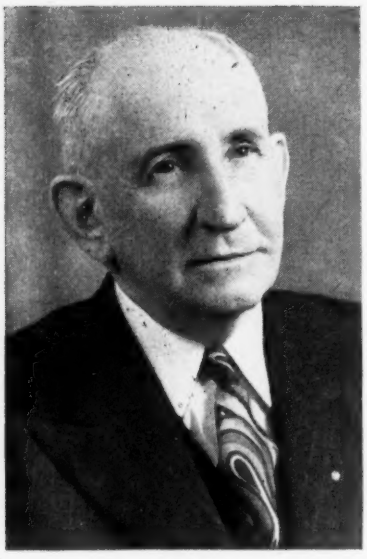
THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

You get all these Trouble-free Construction Features of EXIDE-MANCHEX BATTERIES

1. Exclusive long-life manchester plate
2. Latest developments in molded glass jars for compact installation
3. Heavy terminal posts with copper inserts for extra conductivity for instant high discharge
4. Slotted plastic separators, impervious to chemical and electrical reaction
5. Plastic spacers for plate alignment

"Exide" *and* "Manchex" *Reg. Trade-marks U.S. Pat. Off.*

188 ... DEPENDABLE BATTERIES FOR 63 YEARS ... 1951



R. B. STILL

H. H. BUTLER

K. L. SCHROEDER

Gary Group Companies Announce Personnel Changes

A number of important changes in executive and administrative personnel were announced during December by various telephone operating companies of the Gary Group.

At Bloomington, Ill., headquarters of Illinois Telephone Co., R. B. Still, who has been president of the company since its formation by the merger of four Illinois companies in December, 1945, was elected chairman of the board on Dec. 6, 1950. Succeeding Mr. Still, H. H. Butler was elected president on the same date. Mr. Butler was formerly with Illinois Telephone Co., but more recently has been vice president and general manager of Illinois Central Telephone Co., Clinton, Ill.

R. C. Ross, formerly general traffic superintendent for Illinois Telephone Co., has been elected to succeed Mr. Butler as vice president and general manager of Illinois Central Telephone Co. at Clinton.

At Sumter, S. C., Gordon Saunders has taken over as president of both South Carolina Continental Telephone Co. and Sumter Telephone Co., effective Dec. 1, 1950. Mr. Saunders was formerly traffic and commercial superintendent for Union Telephone Co., Owosso, Mich., a post he has held since July, 1948. T. H. McChesney, formerly general superintendent of both the South Carolina companies, has been elected vice president and general manager. Mr. McChesney went to Sumter in April of last year from Columbia, Mo., where he had been assistant general manager of Missouri Telephone Co.

GORDON SAUNDERS

K. L. Schroeder, vice president and general manager of Nebraska Continental Telephone Co., Columbus, Neb., since last March, has been elected pres-

HERE'S Half a Ton OF Pull — TOOL-BELT SIZE!

The New 1000-lb. Mighty Midget Puller

ONLY $31.00

(500-lb. Model $21.75)

Combining easy portability with added pulling power, the new Coffing Mighty Midget does *more* jobs, does them *easier*. Only 9½ lbs. in weight, it hangs easily on a lineman's tool belt. Full half-ton capacity gives it plenty of power for stretching long spans of wire, raising heavy equipment, tightening guys — many other pulling and lifting jobs. Convenient 2-way handle serves as a lever or high speed crank.

Equip your crews with these new, stronger mighty midgets. See how their added strength and tool-belt portability speed maintenance and new construction. Write for Bulletin T2MP.

COFFING HOIST CO.

Quik-Lift Electric Hoists • Hoist-Alls • Safety-Pull Ratchet Lever Hoists • Spur-Geared Hoists • Differential Chain Hoists • Load Binders • I-Beam Trolleys

DANVILLE, ILLINOIS

ident of that company. He has been succeeded as vice president and general manager by W. T. Autry, who comes from Broken Arrow, Okla., where for the past five years he was vice president of Oklahoma Telephone Co.

F. E. Messecar, for the past several years manager of the Gratiot district of Union Telephone Co., Owosso, Mich., has been elected to succeed W. T. Autry as vice president and general manager of Oklahoma Telephone Co., with headquarters at Broken Arrow.

At Cookeville, Tenn., headquarters in that state for Southern Continental Telephone Co., the newly created post of assistant to the president was assumed on Nov. 1, 1950, by Allan W. Ryder, who for the past two years was plant superintendent for Blue Mountain Telephone & Telegraph Co., Wiconisco Telephone & Telegraph Co., and Southern Telephone & Telegraph Co.—the three community group properties in Pennsylvania with headquarters at Bengor, Pa. Mr. Ryder was executive secretary of the New York State Telephone Assoc. at Albany, N. Y., for the years 1947 and 1948. Prior to this time, he had been associated with Gary Group companies in Illinois and Pennsylvania.

V V

Plan Co-op Development for Parts of Arizona, New Mexico

Residents of Apache and Navajo counties, Arizona, were working Jan. 18 on a plan to establish a rural telephone co-operative for northeastern Arizona and part of western New Mexico.

Nelson S. Wirick, Snowflake, Ariz., was named chairman of a committee to work on the program. The committee met with Lewis A. Sprain, field representative of the Rural Electrification Administration, to discuss the co-operative.

Communities to which the co-operative will consider service include: Alpine, Aripine, Carrizo, Clay Springs, Greer, Fort Apache, Forestdale, Hannegan Meadows, Heber, Linden, Nutrioso, Overgaard, Pinedale, Whiteriver, all in Arizona; and possibly Luna, Pleasanton and Reserve in nearby New Mexico.

V V

"'Tyranny, like hell, is not easily conquered.' These stirring words were uttered during our Revolution by that undaunted fighter for liberty, Thomas Paine. They are worth remembering in dark days. Despite many discouragements tyranny was finally conquered then, and so it will be again."—Taylorville (Ill.) Daily Breeze-Courier.

"No, no, teacher! My daddy says there are three famous poles - - North Pole - - - South Pole and **KOPPERS POLE!**"

WE don't know how the teacher is going to wangle her way out of this predicament—but we do know that, with users in the *utilities* world, the Koppers Pole *is* famous.

Line Supervisors get poles that retain their strength, and reduce maintenance work. The result is easier, more economical line operation.

Purchasing Agents like to deal with Koppers. All transactions are on a businesslike basis. Plus the fact that deliveries are dependable and the quality of the poles is uniform.

Company Officials find that Koppers Poles provide longer periods of *continuous* service, thus increasing revenue and promoting customer good will. And the exceptionally long pole life lowers annual operating costs.

KOPPERS COMPANY, INC. **PITTSBURGH 19, PA.**

KOPPERS **PRESSURE-TREATED WOOD**

Insto-Gas
T. M. REG. U. S. PAT. OFF.

FURNACE
For Cable Splicers

Melts 40 pounds of metal in six minutes

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Operates in all kinds of weather

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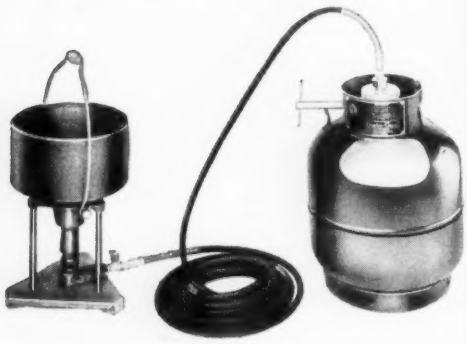
Lights Instantly — Won't Blow Out

Also available in floor type furnace—With 50 ft. hose can be operated on splicing platform



INSTO-GAS TORCHES

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Listed by both Underwriters and Factory Mutuals Laboratories.

Write today for complete information or use coupon.

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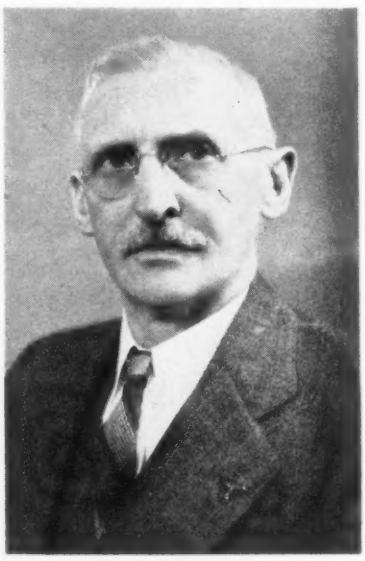
Insto-Gas Corporation • Detroit 7, Mich.

Oklahomans Pay Tribute To H. W. Hubenthal

Members of the Oklahoma Telephone Association and the Oklahoma Chapter, Telephone Pioneers of America, joined in a dinner party at the Huckins Hotel, at Oklahoma City, Okla., on Jan. 25, in honor of H. W. Hubenthal, who retired as secretary of the Oklahoma association on Jan. 1.

Attendance was statewide. He was presented with a scroll signed by officers and directors of the association



H. W. HUBENTHAL

expressing appreciation for his long and faithful service of 55 years in the telephone industry—23 years as secretary of the Oklahoma association.

Oklahoma Chapter No. 41, Telephone Pioneers of America, presented him with a certificate of life membership in the organization. J. W. Walton, Broken Arrow, Okla., a former president of the Oklahoma association, presided as toastmaster. He outlined Mr. Hubenthal's career.

Born in Bremen, Germany, he started as a seaman in the romantic days of the old square-rigged windjammers and finally came to America in search of more adventure and a career.

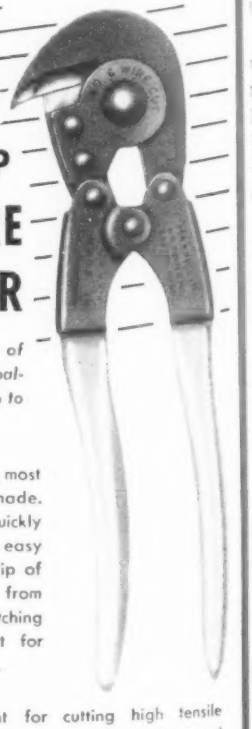
Seasoned in climbing the masts of merchantmen in all parts of the world and in all weather conditions, Mr. Hubenthal was a "natural" for climbing poles, when, in 1896, he applied for and obtained a job in the construction department of the Southwestern Telephone & Telegraph Co., of Galveston, Tex. He rose through various jobs in that company to manager and superintendent at Texarkana, Ark.

From 1909 to 1921, first with the Southern Telephone Co., into which the Valley Telephone Co. was merged, Mr. Hubenthal served successively as chief accountant, superintendent and general manager, operating 67 exchanges and 3,000 miles of toll lines in Arkansas, Louisiana and Texas. From October, 1912, to August, 1914, he traveled as a salesman in Arkansas, Missouri, Oklahoma and Kansas for the Holtzer-Cabot Electric Co. of Chicago, Ill.

He began his telephone operating career in Oklahoma in 1914 with the United Telephone Co., of Afton, served as superintendent and engineer and made rate and toll studies for that company and a number of other Independent companies, which led to his becoming secretary with the old Oklahoma Independent Telephone Association. In that capacity, he carried on further rate and toll studies for Independent companies, which led to his selection as telephone engineer of the Oklahoma Corporation Commission.

He remained in that position until 1921, when he was named as secretary of the Telephone Division of the Oklahoma Utilities Association. Later that division separated from the utilities group, to become the present Oklahoma Telephone Association, which Mr. Hubenthal served as secretary until his retirement last year.

HKP
PORTER
HANDKLIP
6C WIRE
CUTTER



For FREE CUTTING of wires, cable, rods, baling wire and bolts up to medium hardness.

One of the handiest, most useful cutters ever made. Parrot-beak jaw quickly locates material for easy cutting. Protruding tip of jaw prevents wire from slipping, aids in stretching wire and is great for pulling out staples.

Essential equipment for cutting high tensile communication and power wires used in rural electrification (Model 6B with special hard cutting edges). See your supplier.

H. K. PORTER, INC.
Somerville 43, Mass.
Porter Cutters Porter Pruners
PORTER-FERGUSON Autobody and Fender Repair Tools

United Utilities Purchase McKrae Telephone Co.

United Utilities, Kansas City, Mo., has announced that it has purchased all of the common stock of the McKrae Telephone Co., Inc., Fredonia, Kan., which has been in receivership for the past few years. The receivership was terminated on Jan. 2.

The company will still operate as the McKrae Telephone Co., Inc., and will be a subsidiary of United Utilities, Inc. The property consists of 13 exchanges, serving approximately 4,800 subscribers. The company will be managed by L. C. True, formerly with the American Telephone Co., and he will have his headquarters in Fredonia.

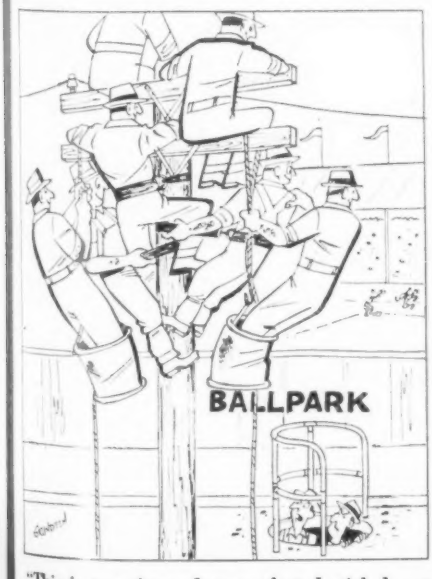
Newly-elected officers of the McKrae company are: President, Carl L. Spaid; vice president, A. L. Hart; treasurer, C. A. Scupin; secretary, O. D. Small, and auditor, H. L. Sidener.

V V

L. A. Shradar Appointed to REA Loan Department

L. A. Shradar, Elmhurst, Ill., has announced that he has accepted an appointment with the Rural Electrification Administration as an administrative assistant in the application and loans department of the Telephone Facilities Division. He took up his new duties in Washington, D. C., on Jan. 15.

Before joining REA, Mr. Shradar was in the engineering department of the Automatic Electric Co., Chicago, Ill., where he served for four years. Previous to that, he spent 10 years with the Illinois Commercial Telephone Co., Springfield.



"This is one time of year when I wish I was in the overhead."

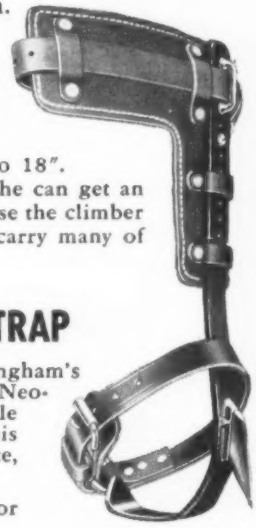
Courtesy, Edison News

That's BUCKINGHAM on TOP

Buckingham has been up on top for more than 50 years—making safe, dependable, comfortable climbing equipment second to none. That's why you can buy with confidence if it's Buckingham.

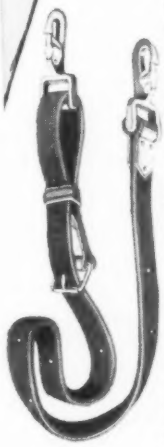
New

ADJUSTABLE CLIMBER



We have developed an adjustable climber which *will fit any man.* Its length adjusts from 15″ to 18″. Advantages for the lineman: comfort, because he can get an *exact* fit; for the company: money is saved because the climber inventory is reduced. No longer any need to carry many of each size in stock.

NYBUCK (NYLON) SAFETY STRAP



Here's added safety, from Nybuck—Buckingham's new nylon strap. It's impregnated with Neoprene—strength is not affected by pole dressings, cleaning agents or climate. This is the strongest safety strap, size-for-size, being made today!

Safety straps also available in fabric or heavy-duty harness leather.

"CUSHION DELUXE" FLOATING TOOL BELT

This is far and away the lineman's favorite. And no wonder! Its cushion-edge effect gives much greater working comfort. Its floating feature (straps do not bind—they *slide* easily) means that the tool loops stay full and open at all times. It's lightweight—only 3 lbs. 12 ozs. Linemen find they can work faster and more comfortably with *this* belt.

Write for Catalog No. 24 giving complete information on the full Buckingham line. It's FREE! Or see your nearest distributor.

BUCKINGHAM MANUFACTURING CO., INC.
31-33 TRAVIS AVE. BINGHAMTON, N. Y.

Looking for savings in underground duct systems?

1. Save installation costs—Lightweight; long lengths; easy to assemble, saves time and labor.

2. Save cable installation costs—smooth bore permits easy cable pulling—reduces abrasion.

3. Save maintenance costs—Non-metallic; immune to electrolysis—prevents cable corrosion.

4. Save replacement costs—Inorganic; resist acid or alkaline soils; high mechanical strength—permanence.

5. Save fire damage costs—Fireproof because they are asbestos-cement products.

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TRANSITE DUCTS
Conduit—for use without concrete envelope
Korduct—for use with concrete envelope

FOR
LACING CABLES
—and all other jobs needing a superior, all-flax cord.
A *Barbour* PRODUCT

THE LINEN THREAD CO., INC.
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BOSTON 10 CHICAGO 10 SAN FRANCISCO 5
BALTIMORE 3 PHILADELPHIA 6 GLOUCESTER

In the Nation's Capital

(Concluded from page 14)

He called attention to oil mining industries, estate and gift taxes, and life insurance companies. But those who expected that the President might come out for the removal of the tax exemption enjoyed by cooperatives had no reason to cheer. The closest he came on this point was: "I urge the Congress . . . to review the tax status of organizations now exempt under present law." Notice that he does not urge *removing* such tax exemption. He only wants Congress to "review" the situation. And there are a number of organizations other than the co-ops which enjoy such tax exemption too politically risky to remove; such as educational, religious, union, and similar groups.

Speaking of taxes, however, there is one tax that ought to stand a fair chance of removal even in the face of the countertrend to increase taxes. Actually it isn't a tax at all, but simply a tariff imposed to protect the domestic copper industry. Inasmuch as the domestic copper production is obviously not sufficient to take care of the nation's increasing needs, this protective tariff on copper imports seems hard to justify, in the face of the series of orders from the National Production Authority cutting down, or otherwise limiting, the use of copper.

The United States Independent Telephone Association has joined others in support of two bills in Congress to remove the copper import tax. One by Representative Patterson (R., Conn.) eliminates the tax entirely. This is H. R. 251. Another, which for tactical reasons might pass more quickly, in the face of a strong copper lobby, is H. R. Res. 37, by Representative Mills (D., Ark.), to lift the copper import tax for 18 months. Congressional approval of either of these measures in the near future would go a long way toward relieving the copper supply situation, which is growing tighter every day.

V V

"If we had been paying for government expenditures as we go in the past, there would be no need at this time for control for the simple fact that our money would be stable. So today we have inflation at a point where we can buy only half as many weapons with the same money as we did in 1945."—Liberal (Kan.) Daily Times.

Winfield Pipes New General Manager in British Columbia

Winfield S. Pipes on Jan. 1 was appointed general manager of the British Columbia Telephone Co., according to an announcement by Gordon Farrell, president of the company.

Mr. Pipes, who has been acting general manager for several months, succeeds Cyril B. Diplock, who is still absent from duty because of illness. Mr. Diplock continues to be a vice president of the company.

The new general manager takes up his appointment with a background of experience in the plant, traffic, commercial engineering and rate engineering phases of the company's operations.

W. S. PIPES

He started his telephone career as a groundman at New Westminster, working with a heavy gang. At times he also worked as a cable splicer's helper, as an installer's aide and in the maintenance department.

In 1929 he moved to the traffic operating staff and then to traffic engineering. In 1931 he was appointed toll line engineer. In 1943 he was appointed development engineer, and in 1947 became rate and development engineer.

V V

"Those who are raising the cry today that the federal government is rapidly entering every phase of this country's economy, can only ask themselves one question, 'How many times did I invite it to do that very thing?' The less we cry piteously in both our state and local affairs, the more this trend of benevolent control from the capital will diminish. It is time to choose our masters."—Reynoldsville (Pa.) Star.

Central Telephone Names New Consultant, W. Va. Manager

L. D. Densmore, Lincoln, Neb., vice president and general manager, Central Telephone Co., has announced that Toral F. Duckett has been appointed manager of the Bluefield (W. Va.) Telephone Co. to succeed W. A. Pankey, who will become operating consultant of the company.

Mr. Duckett has been serving as assistant to Mr. Densmore in the company's general office at Lincoln since

T. F. DUCKETT

Oct. 15. Mr. Duckett first entered the Central company's employ in 1928, as office manager at Hot Springs, S. D. In 1929, he was transferred to the general office disbursement accounting department and three years later was appointed district manager of the Iowa district.

In May of 1946, he was made western division manager with offices at Sioux Falls, S. D., a post he held until the central and western divisions were consolidated in March, 1950. He then assumed the responsibilities as an assistant to Mr. Densmore, but was almost immediately transferred to Tallahassee, Fla., to take charge of the Florida operations of Southeastern Telephone Co., and more particularly the conversion of the Tallahassee exchange to dial service. Following the Tallahassee conversion, Mr. Duckett returned to his Lincoln assignment.

Mr. Pankey's telephone career started as a boy in the central office of the Home Telephone Co. in Lynchburg, Va., doing night operating and odd jobs about the property. Later he was promoted to day chief operator and also kept the central office equipment in repair.

He later was sent to Charleston by his employer to help install an independent telephone system in that city and assist in the installation of several hundred telephones.

Mr. Pankey started with the Bluefield Telephone Co. in 1895.

He became general manager of the Bluefield company in 1921, and has continued as the operating head of the business since that time.

V V

Highway Mobile Telephone System Expansion Reported

Rapid expansion of highway mobile telephone systems in the United States since they were inaugurated in 1946 was recounted recently by Louis A. Dorff, of the Bell Telephone Laboratories, Inc., at the winter meeting of the American Institute of Electrical Engineers.

In a technical paper on "Operational Study of a Highway Mobile Telephone System," Mr. Dorff said that as of May 31, 1950, highway mobile telephone service in the United States "has expanded to include 110 base transmitting stations, serving about 3,500 mobile units and handling approximately 81,000 completed calls per month."

The systems cover many major east and west highways, and statewide systems have been established in Michigan, Wisconsin, Minnesota, Illinois, Missouri, Kansas, Oklahoma, Arkansas, and Texas, he said.

When the service was inaugurated in Green Bay, Wis., Aug. 28, 1946, it was planned to operate all stations on a single channel of two frequencies, one for transmission to the mobile unit. This would have allowed a vehicle equipped with the normal single-channel radio set to travel anywhere in the continental United States and to make or receive calls.

During test, however, considerable sky-wave interference was experienced between systems separated by more than 1,000 miles, and it was decided to divide the country into seven zones 800 to 1,200 miles in extent and each was assigned a pair of frequency channels. All stations in a particular zone operated on the same channel frequencies, and vehicles moving from one zone to another, may be equipped with an additional oscillator unit with relay-switched crystals, controlled by a manual channel selector mounted alongside the unit holding the handset.

with ONAN Emergency ELECTRIC PLANTS

Don't let power failures cripple service to your subscribers. A low-cost dependable Onan Standby Plant, installed in the exchange, assures normal operation at all times. Designed specifically for emergency service, Onan Electric Plants with line transfer controls, start automatically when power fails, stop by themselves when regular power is restored.

Onan plants are available in a wide range of sizes, 1,000 to 35,000 watts in standard voltages, cycles and phases. *Free engineering service on request.*

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- 10 Models
- 1—15 Tons Capacity

SIMPLEX POLE JACKS

- No digging needed!
- Pull, straighten poles of any size!
- 8' Welded Steel Chain
- 5' Steel Lever Bar
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Get man-hour savings that really cut construction and maintenance costs with these rugged Simplex Jacks. Get fast, safe jacking, with easy operation that speeds work!

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Simplex LEVER · SCREW · HYDRAULIC Jacks

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FOR SALE OR TRADE—Controlling stock in Magneto exchange northwest Missouri. 383 stations. Gross approximately $14,000. Rural plant newly rebuilt. Details on request. Write Box No. 2999, c/o TELEPHONY.

Immediate shipment. Pole brackets, crossarms, hardware. Wire: drop, emergency. Test-sets, coils, condensers, telephones. Hundreds of items. Elfvin Products, Flemington, N. J.

500 Used Stromberg-Carlson No. 1155 Steel Wall Telephones....$3.50 ea.

500 Used Stromberg-Carlson No. 1156 Steel Desk Set Boxes....$2.50 ea.

Frequencies: Straight line, 16-2/3, 33-1/3, 50, 66-2/3 cycles.

Write Box No. 2973, c/o TELEPHONY

Pay-out Reels, like new	Ea.	$8.00
Havens Grips, new		1.00
No. 1 Buffalo Wire Grips, Perfect Condition		1.00
Pole Carrying Hooks with handles. New, pair		5.00

Approx. 10,000' No. 18 paired twisted copper drop wire, like new, $10 per M ft.

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Rebuilt W.E. Handsets like new with new 3 Cond. Cord.....$4.95 Ea.
Rebuilt like new Kellogg Handsets with new 3 Cond. Cord.....$4.50 Ea.
New FTR 801 BB Magneto telephone parts.
New Stromberg Carlson Swbd. Lamps 30 Volt.....$10.00 per 100
New Sylvania Swbd. Lamps T-2 1632 TD.....$10.00 per 100
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284—4th Ave. MAin 4-1882 Brooklyn 15, N.Y.

USED TELEPHONES
Cleaned and Tested

W.E. Magneto 5-bar Bell Boxes.....$8.50
W.E. Magneto 3-bar Bell Boxes.....$6.50
W.E. Magneto 5-bar Wall Telephones.....$8.50
A.E. Oval Base French Telephones, No. 1A blank for dial, complete with cords.....$8.50

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P.O. Box 950 Yuma, Arizona

FOR SALE

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Loud ringing bells, 6 in. gong, 1000 or 2500 ohm @ $8.00—with condensers.....$8.50 Each
Enclosed gong extension bell boxes.....$3.00 Each
Kellogg ringer boxes, No. 600-602, coils and condenser in...$3.50 Each

Prices are FOB Chicago.

INDEPENDENT TELEPHONE REPAIR CO.
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CABLE CD 574—2 Cond. No. 4 Gauge, 50 ft. lengths with male and female plug, brand new.....$10.00 per length
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SWITCHBOARD UNITS EE 2.....$1.00 Ea.
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